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Packaged air-cooled water chillers and packaged reversible air to water heatpumps

Product manual

EWAQ-ACV3 (009, 010, 011)
EWYQ-ACV3 (009, 010, 011)

EWAQ-ACW1 (009, 011, 013)
EWYQ-ACW1 (009, 011, 013)

Refrigerant: R410A

Code	ECDEN10-401
Date	

EWA/YQ-AC

TABLE OF CONTENTS

EWAQ-ACV3

1 Specifications

1-1 Technical Specifications				EWAQ005ACV3	EWAQ006ACV3	EWAQ007ACV3
Capacity (Eurovent)	Cooling	Minimum	kW	4.01	4.01	4.01
		Nominal	kW	5.2	6.0	7.1
		Maximum	kW	5.2	6.0	7.1
Nominal input (Eurovent)	Cooling		kW	1.89	2.35	2.95
EER (Eurovent)				2.75	2.55	2.41
ESEER				3.75	3.83	3.87
Casing	Colour			Ivory white		
	Material			Polyester painted steel plate		
Dimensions	Unit	Height	mm	805	805	805
		Width	mm	1,190		
		Depth	mm	360	360	360
	Unit with packing	Height	mm	915	915	915
		Width	mm	1,265		
		Depth	mm	442	442	442
Weight	Unit		kg	100	100	100
	Operating Weight		kg	104	104	104
	Gross weight		kg	108	108	108
Water Heat Exchanger	Type			Brazed plate		
	Filter	Type		Brass Y-strainer		
		Diameter perforations	mm	1	1	1
	Minimum water volume in the system		l	10	10	10
	Water flow rate	Min	l/min	12	12	12
	Nominal Water Flow	Cooling	l/min	14.9	17.2	20.4
	Insulation material			Polyethylene foam		
	Model	Quantity		1	1	1
		Model		ACH30-48		
Air heat exchanger	Type			Tube type		
	Rows			2	2	2
	Stages			32	32	32
	Fin Pitch		mm	1.8	1.8	1.8
Pump	Type			Water cooled		
	Quantity			1	1	1
	Model			RS 25/7 3 PL 130 3		
	Nominal ESP unit	Cooling	kPa	49.4	45.1	38.3
Hydraulic components	Antifreeze heater		W	75	75	75
	Expansion vessel	Volume	l	6	6	6
		Pre-pressure	bar	1	1	1
	Water filter		inch	1"		
	Safety valve		bar	3	3	3
Fan	Type			Propeller		
	Model	Quantity		1	1	1
		Motor Output	W	53	53	53
		Discharge direction		Horizontal		
Compressor	Type			Hermetically sealed swing compressor		
	Refrigerant oil type			FVC50K		
	Refrigerant oil charge		l	0.75	0.75	0.75
	Model	Quantity		1	1	1
		Model		2YC63BXD#C		
Sound level	Sound Power	Cooling	dBA	62	62	63
	Sound Pressure	Cooling	dBA	48	48	50
Refrigerant circuit	Refrigerant type			R-410A		
	Refrigerant charge		kg	1.7	1.7	1.7
	No of circuits			1	1	1
	Refrigerant control			Inverter		

1 Specifications

1-1 Technical Specifications		EWAQ005ACV3	EWAQ006ACV3	EWAQ007ACV3
Piping connections	Water heat exchanger inlet / outlet	1'' MBSP		
	Water heat exchanger drain	hose nipple 1/2'' FBSP		
Notes		Nominal cooling capacity, cooling power input and EER at Eurovent conditions: ambient 35°C; evaporator 7°C (dT = 5°C)		
		The sound pressure level is measured via a microphone at a certain distance from the unit. It is a relative value, depending on the distance and acoustic environment.		

1-1 Technical Specifications				EWAQ009ACV3	EWAQ010ACV3	EWAQ011ACV3
Capacity (Eurovent)	Cooling	Nominal	kW	8.5	9.5	11.0
Capacity control	Type			Inverter controlled		
Capacity	Cooling	Nominal	kW	12.1	13.5	15.5
Nominal input (Eurovent)	Cooling		kW	2.74	3.19	3.82
Nominal input	Cooling		kW	2.76	3.32	4.05
EER (Eurovent)				3.11	2.98	2.88
EER				4.37	4.07	3.84
ESEER				4.57	4.52	4.46
Casing	Colour			Ivory white		
	Material			Galvanized and painted steel sheet		
Dimensions	Unit	Height	mm	1,435		
		Width	mm	1,418		
		Depth	mm	382	382	382
	Unit with packing	Height	mm	1,574		
		Width	mm	1,500		
		Depth	mm	430	430	430
Weight	Unit		kg	180	180	180
	Gross weight		kg	200	200	200
Packing	Material			EPS		
				Wood		
				Carton		
				PP (Straps)		
	Weight		kg	20	20	20
Water Heat Exchanger	Type			Brazed plate		
	Quantity			1	1	1
	Water volume		l	1.01	1.01	1.01
	Water flow rate	Min	l/min	16	16	16
		Max	l/min	58	58	58
	Nominal Water Flow	Cooling	l/min	24.4	27.2	31.5
	Insulation material			Foamed synthetic elastomer		
Air heat exchanger	Length		mm	857	857	857
	Type			Hi-XSS(8)		
	Rows			2	2	2
	Stages			60	60	60
	Fin Pitch		mm	1.4	1.4	1.4
	Passes	Quantity		5	5	5
	Face Area		m²	1.131		
	Fin	Type		WF fin		
		Treatment		Anti-corrosion treatment (PE)		
Pump	Type			Water cooled		
	Quantity			1	1	1
	Nominal ESP unit	Cooling	kPa	58.0	54.6	49.1
	Power input		W	210	210	210
Hydraulic components	Expansion vessel	Volume	l	10	10	10
		Max. water pressure	bar	3	3	3
		Pre-pressure	bar	1.0	1.0	1.0
	Water filter	Diameter perforations	mm	1	1	1
		Material		brass		

1 Specifications

1-1 Technical Specifications				EWAQ009ACV3	EWAQ010ACV3	EWAQ011ACV3
Fan	Type			Propeller		
	Drive			Direct drive		
	Model	Motor		Brushless DC motor		
		Quantity		2	2	2
		Speed	steps	8	8	8
			rpm	780	780	780
		Motor Output	W	70	70	70
		Discharge direction		Horizontal		
Air flow rate	Cooling	Nom.	m³/min	96	100	97
Compressor	Type			Hermetically sealed scroll compressor		
	Refrigerant oil type			FVC68D		
	Refrigerant oil charge		l	1.0	1.0	1.0
	Model	Quantity		1	1	1
		Model		JT100G-VD		
		Motor Output	W	2,200		
		Starting Method		Inverter driven		
		Crankcase Heater	W	33	33	33
Sound level	Sound Power	Cooling	dBA	64	64	64
	Sound Pressure	Cooling	dBA	51	51	51
Sound Level (Night quiet)	Sound Pressure	Cooling	dBA	45	45	45
Operation Range	Water side	Min	°CDB	5	5	5
		Max	°CDB	22	22	22
	Air side	Min	°CDB	10	10	10
		Max	°CDB	46	46	46
Refrigerant circuit	Refrigerant type			R-410A		
	Refrigerant charge		kg	2.95	2.95	2.95
	No of circuits			1	1	1
	Refrigerant control			Electronic expansion valve		
Water circuit	Piping connections		inch	G5/4 (FEMALE)		
	Piping		inch	5/4		
	Safety valve		bar	3	3	3
	Manometer			Yes		
	Drain valve / Fill valve			yes		
	Shut off valve			yes		
	Air purge valve			yes		
	Total water volume		l	4	4	4
	Minimum water volume in the system		l	20	20	20
Safety Devices				High pressure switch		
				Fan thermal protector		
				Fuse		
Notes				Nominal cooling capacity, cooling power input and EER at Eurovent conditions: ambient 35°C; evaporator 7°C (dT = 5°C)		
				Nominal cooling capacity, cooling power input and EER at non-Eurovent conditions: ambient 35°C; evaporator 18°C (dT = 5°C)		
				The sound pressure level is measured via a microphone at a certain distance from the unit. It is a relative value depending on the distance and acoustic environment. Refer to sound spectrum drawing for more information.		
				Water circuit total water volume: including piping + PHE/excluding expansion vessel		
				Water circuit minimum water volume system: excluding water volume in the unit. In most applications this minimum water volume will have a satisfying result. In critical processes or in rooms with a high heat load though, extra water volume might be required. Refer to operation range for more info.		
Defrost Method				Pressure equalising		
Defrost Control				Sensor for outdoor heat exchanger temperature		

1 Specifications

1-2 Electrical Specifications				EWAQ005ACV3	EWAQ006ACV3	EWAQ007ACV3
Power Supply	Name			V3		
	Phase			1~		
	Frequency		Hz	50		
	Voltage		V	230		
	Voltage Tolerance	Minimum	%	-10%		
		Maximum	%	+10%		
Unit	Maximum Running Current		A	17.3		
	Minimum Ssc value			Equipment complying with EN/IEC 61000-3-12		
	Recommended fuses according to IEC standard 269-2			20		
Fan	Quantity			1		
	Phase			1~		
	Voltage		V	230		
Pump	Phase			1~		
	Power input		kW	0.13		
	Voltage		V	230		
	Maximum Running Current		A	0.58		
	Speed	Minimum	rpm	1,050		
		Nominal	rpm	2,250		
		Maximum	rpm	2,450		
Evaporator Heater Tape	Supply Voltage		V	230		
	Capacity		W	75		
	Voltage Tolerance	Minimum	%	-10%		
		Maximum	%	+10%		
	Recommended fuses			20A		
Notes				Fuse value valid for complete unit		
				EN/IEC 61000-3-12: European/international technical standard setting the limits for harmonic currents produced by equipment connected to public low voltage systems with input current > 16A and <= 75A per phase		

1-2 Electrical Specifications				EWAQ009ACV3	EWAQ010ACV3	EWAQ011ACV3
Power Supply	Name			V3		
	Phase			1~		
	Frequency		Hz	50		
	Voltage		V	230		
	Voltage Tolerance	Minimum	%	-10%		
		Maximum	%	+10%		
Unit	Minimum Ssc value			Equipment complying with EN/IEC 61000-3-12		
	Recomended fuses		A	32		
Wiring connections				cf. installation manual		
Notes				EN/IEC 61000-3-12: European/international technical standard setting the limits for voltage changes, voltage fluctuations and flicker in public low-voltage supply systems for equipment with rated currents <= 75A		

2 Options

Capacity: 5 - 7.1 kW

Modelnumber

EWAQ005A*V3P EWYQ005A*V3P
EWAQ006A*V3P EWYQ006A*V3P
EWAQ007A*V3P EWYQ007A*V3P

Option number	Option description	(On)	Unit size						Availability
			EWAQ005A*V3P	EWAQ006A*V3P	EWAQ007A*V3P	EWYQ005A*V3P	EWYQ006A*V3P	EWYQ007A*V3P	
	Standard unit								
	Available options								
OP10	Evaporator heatertape	-H-	○	○	○	○	○	○	Factory mounted

3TW57539-5

Notes

○ Available

EWA(Y)Q009-013AC

Optional equipment for EWA/YQ*A*V3/W1P(on)

Modelnumber

EWAQ009A*V3P(on) EWYQ009A*V3P(on)
EWAQ010A*V3P(on) EWYQ010A*V3P(on)
EWAQ011A*V3P(on) EWYQ011A*V3P(on)

(on) = option number

EWAQ009A*W1P(on) EWYQ009A*W1P(on)
EWAQ011A*W1P(on) EWYQ011A*W1P(on)
EWAQ013A*W1P(on) EWYQ013A*W1P(on)

Option number	Option description	(on)	Unit size						Availability
			EWAQ009A*V3P(on)	EWAQ010A*V3P(on)	EWAQ011A*V3P(on)	EWYQ009A*V3P(on)	EWYQ010A*V3P(on)	EWYQ011A*V3P(on)	
OP10	Standard unit available options evaporator + waterpiping heatertape		○	○	○	○	○	○	factory mounted
EKRP1HB	Digital I/O PCB (1)	-H-	○	○	○	○	○	○	option kit
			EWAQ009A*W1P(on)	EWAQ011A*W1P(on)	EWAQ013A*W1P(on)	EWYQ009A*W1P(on)	EWYQ011A*W1P(on)	EWYQ013A*W1P(on)	
OP10	Standard unit available options evaporator heatertape		○	○	○	○	○	○	factory mounted
EKRP1HB	Digital I/O PCB (1)	-H-	○	○	○	○	○	○	option kit

3TW58259-1A

NOTES

1. Input/Output PCB that provides two additional output connections (remote alarm and remote ON/OFF signalisation)

3 Capacity tables

3 - 1 Cooling capacity tables

EWAQ005-007ACV3
EWYQ005-007ACV3

COOLING

Model	Tamb (°C)	20		25		30		35		40		43	
	LWE (°C)	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
005	7	6.15	1.37	5.85	1.53	5.53	1.70	5.20	1.89	4.52	2.02	3.93	2.22
	11	6.97	1.38	6.63	1.55	6.28	1.74	5.92	1.94	4.99	1.99	4.26	2.13
	13	7.40	1.38	7.04	1.56	6.68	1.75	6.30	1.96	5.23	1.97	4.43	2.08
	16	8.06	1.38	7.69	1.57	7.30	1.77	6.90	1.99	5.60	1.93	4.67	2.00
	20	9.00	1.38	8.60	1.58	8.18	1.80	7.75	2.02	6.10	1.88	4.97	1.87
006	7	7.06	1.74	6.73	1.93	6.37	2.14	6.00	2.35	4.93	2.30	4.11	2.36
	11	7.96	1.78	7.59	1.99	7.20	2.20	6.78	2.43	5.43	2.29	4.45	2.29
	13	8.44	1.80	8.05	2.01	7.64	2.24	7.20	2.47	5.69	2.28	4.62	2.24
	16	9.18	1.82	8.76	2.05	8.32	2.28	7.86	2.53	6.09	2.26	4.88	2.17
	20	10.2	1.85	9.8	2.09	9.29	2.34	8.79	2.60	6.64	2.22	5.21	2.05
007	7	8.31	2.23	7.94	2.46	7.54	2.70	7.10	2.95	5.49	2.65	4.36	2.55
	11	9.31	2.31	8.89	2.55	8.44	2.81	7.49	2.94	5.79	2.59	4.60	2.45
	13	9.82	2.35	9.39	2.60	8.91	2.86	7.78	2.91	5.99	2.53	4.75	2.38
	16	10.6	2.41	10.15	2.67	9.65	2.94	8.23	2.85	6.28	2.45	4.95	2.26
	20	11.7	2.49	11.2	2.76	10.67	3.05	8.82	2.76	6.65	2.31	5.21	2.09

3TW57532-1

SYMBOLS

CC : Cooling capacity at maximum operating frequency, measured acc. Eurovent 6/C/003-2006 (kW)
HC : Heating capacity at maximum operating frequency, measured acc. Eurovent 6/C/003-2006 (kW)
PI : Power input (kW)
LWE : Leaving evaporator water temperature (°C)
LWC : Leaving Water Condensor temperature (°C)
Tamb : Ambient temperature (°C) RH=85%

Note:
The heating capacity and power input in the table has to be multiplied by the correctionfactor CF as listed in the table below to obtain the integrated heating capacity and power input.
The integrated heating capacity and power input, is the average heating capacity and power input during 1 cycle. (from end of defrost till end of the next defrost).

Tamb	-15	-10	-7	-2	2	7
CF for HC	0.89	0,89	0,88	0,87	0,86	1,00
CF for PI	0.95	0,95	0,94	0,93	0,92	1,00

Conditions

1 **Cooling capacity**
Capacity is according to Eurovent rating standard 6/C/003-2006 and valid for chilled water range Dt = 3~8°C

2 **Heating capacity**
Capacity is according to Eurovent rating standard 6/C/003-2006 and valid for chilled water range Dt = 3~8°C

3 **Power input**
Power input is total input according to Eurovent rating standard 6/C/003-2006

3 Capacity tables

3 - 1 Cooling capacity tables

EWAQ009-011ACV3
EWYQ009-011ACV3

Maximum Cooling Capacity

	Tamb	20		25		30		35		40		45	
	LWE	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
EWA/YQ009 (V3)	7	10,31	1,86	9,70	2,15	9,10	2,45	8,50	2,74	7,58	3,00	6,67	3,26
	10	11,43	1,84	10,72	2,14	10,02	2,43	9,31	2,73	8,50	3,04	7,68	3,34
	13	12,59	1,81	11,80	2,12	11,01	2,42	10,22	2,73	9,43	3,07	8,65	3,41
	15	13,41	1,77	12,60	2,09	11,78	2,42	10,96	2,74	10,09	3,09	9,23	3,43
	18	14,65	1,71	13,79	2,06	12,93	2,41	12,06	2,76	11,08	3,11	10,10	3,46
	22	16,29	1,62	15,38	2,01	14,46	2,40	13,54	2,79	12,40	3,15	11,26	3,51
EWA/YQ010 (V3)	7	11,64	2,21	10,92	2,54	10,21	2,86	9,50	3,19	8,63	3,50	7,75	3,80
	10	12,92	2,22	12,10	2,55	11,28	2,88	10,46	3,21	9,69	3,55	8,91	3,89
	13	14,24	2,22	13,33	2,56	12,41	2,91	11,50	3,25	10,74	3,61	9,99	3,97
	15	15,15	2,23	14,20	2,58	13,26	2,93	12,31	3,28	11,45	3,64	10,59	4,01
	18	16,53	2,23	15,52	2,59	14,52	2,96	13,52	3,32	12,51	3,69	11,49	4,06
	22	18,36	2,24	17,28	2,62	16,21	3,00	15,13	3,38	13,91	3,76	12,70	4,14
EWA/YQ011 (V3)	7	13,45	2,72	12,63	3,09	11,82	3,45	11,00	3,82	9,93	4,18	8,85	4,54
	10	14,97	2,75	14,07	3,13	13,17	3,50	12,27	3,88	11,24	4,26	10,22	4,65
	13	16,46	2,77	15,48	3,16	14,50	3,55	13,52	3,94	12,48	4,34	11,44	4,75
	15	17,41	2,79	16,38	3,19	15,36	3,58	14,33	3,98	13,20	4,39	12,07	4,80
	18	18,85	2,82	17,74	3,23	16,64	3,64	15,54	4,05	14,28	4,47	13,02	4,88
	22	20,76	2,85	19,55	3,28	18,35	3,71	17,15	4,13	15,71	4,56	14,28	4,99

3TW58252-1B

SYMBOLS

CC : Cooling capacity at maximum operating frequency, measured acc. Eurovent 6/C/003-2006 (kW)
HC : Heating capacity at maximum operating frequency, measured acc. Eurovent 6/C/003-2006 (kW)
PI : Power input (kW), measured acc. Eurovent 6/C/003-2006 (kW)
LWE : Leaving Water Evaporator temperature (°C)
LWC : Leaving Water Condensor temperature (°C)
Tamb : Ambient temperature (°C) RH=85%

NOTES

1 **Cooling capacity**
Capacity is according to Eurovent rating standard 6/C/003-2006 and valid for chilled water range Dt = 3~8°C
Capacity values may not be extrapolated below 7°C leaving water temperature

2 **Heating capacity**
Capacity is according to Eurovent rating standard 6/C/003-2006 and valid for chilled water range Dt = 3~8°C

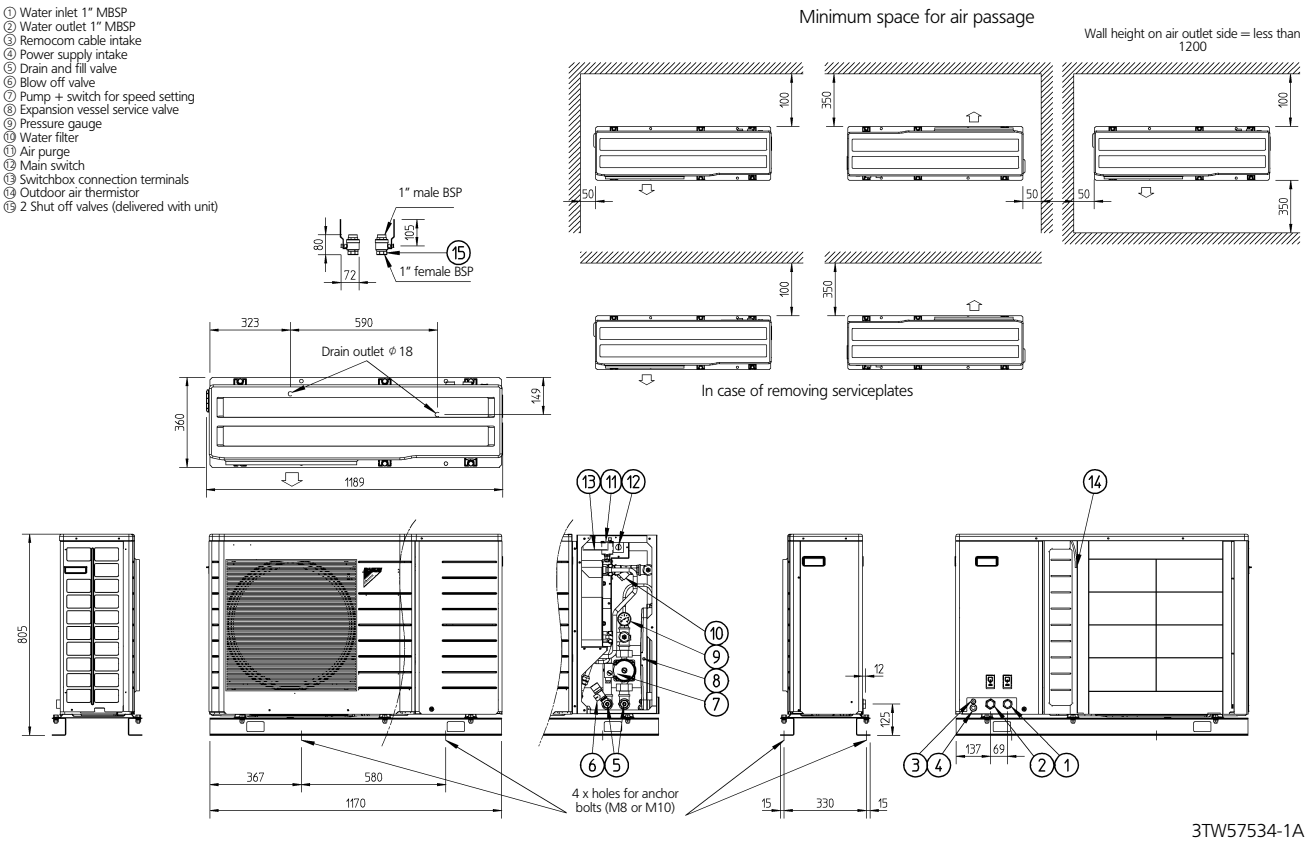
3 **Power input**
Power input is total of indoor and outdoor unit, except the circulation pump; according to Eurovent rating standard 6/C/003-2006.
Pump power input to be added = 90 W (according EN14511).

4 Dimensional drawing & centre of gravity

4 - 1 Dimensional drawing

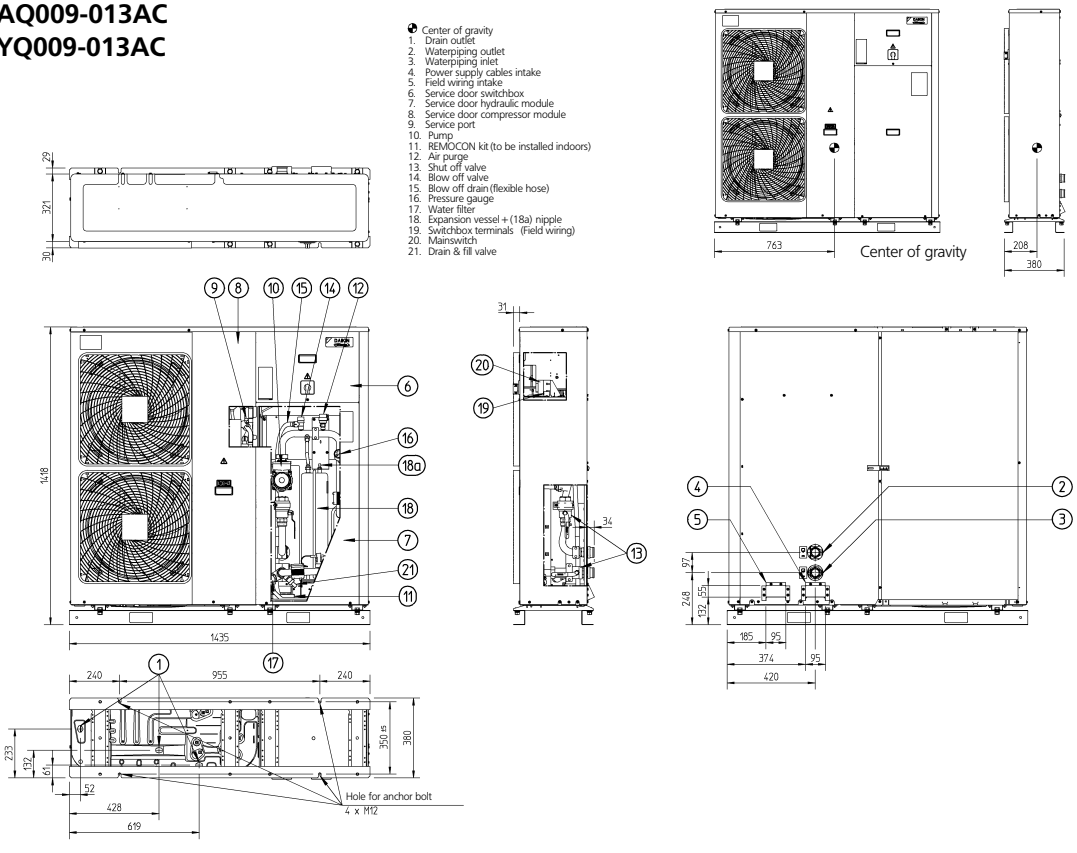
EWA(Y)Q005-007ACV3

① Water inlet 1" MBSP
② Water outlet 1" MBSP
③ Remocom cable intake
④ Power supply intake
⑤ Drain and fill valve
⑥ Blow off valve
⑦ Pump + switch for speed setting
⑧ Expansion vessel service valve
⑨ Pressure gauge
⑩ Water filter
⑪ Air purge
⑫ Main switch
⑬ Switchbox connection terminals
⑭ Outdoor air thermistor
⑮ 2 Shut off valves (delivered with unit)



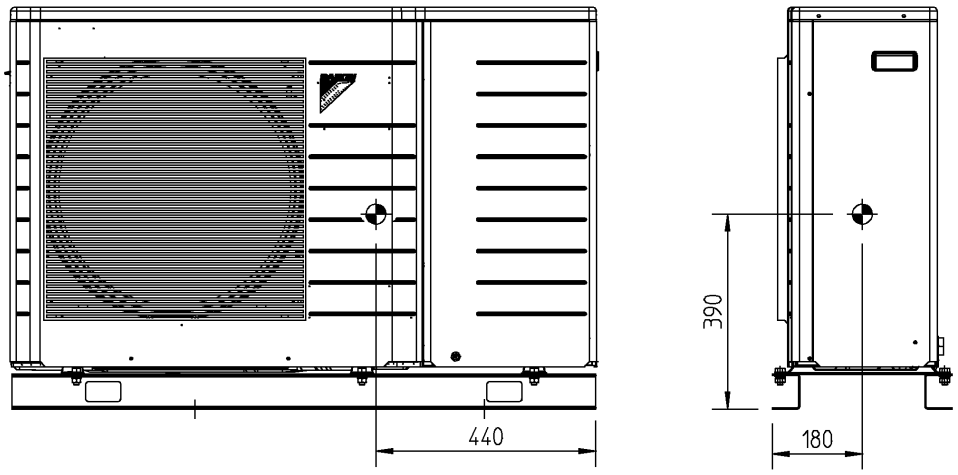
EWAQ009-013AC
EWYQ009-013AC

Center of gravity
1. Drain outlet
2. Waterpiping outlet
3. Waterpiping inlet
4. Power supply cables intake
5. Field wiring intake
6. Service door switchbox
7. Service door hydraulic module
8. Service door compressor module
9. Service port
10. Pump
11. REMOCON kit (to be installed indoors)
12. Air purge
13. Shut off valve
14. Blow off valve
15. Blow off drain (flexible hose)
16. Pressure gauge
17. Water filter
18. Expansion vessel + (18a) nipple
19. Switchbox terminals (Field wiring)
20. Mainswitch
21. Drain & fill valve



4 Dimensional drawing & centre of gravity

4 - 2 Centre of gravity



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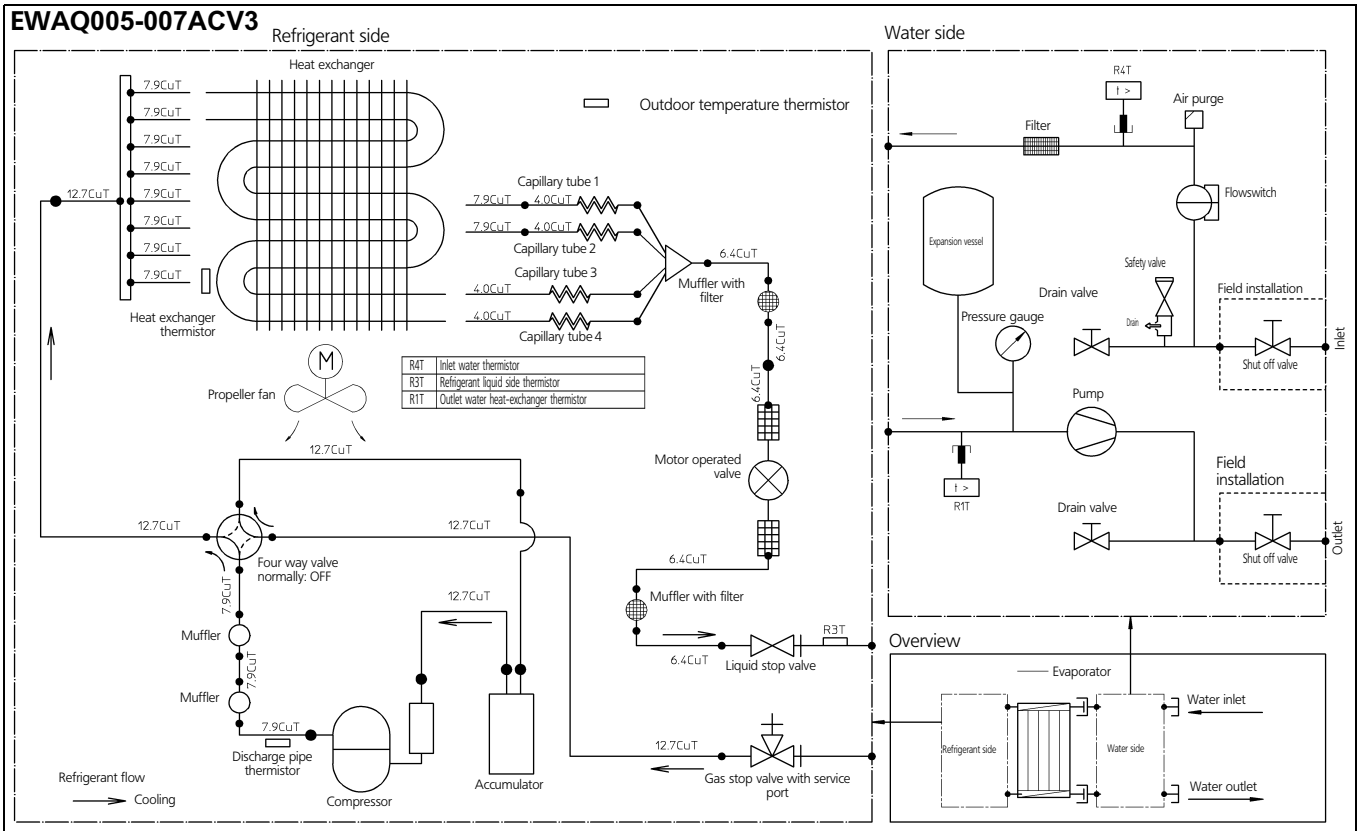
5 Piping diagram

EWAQ005-007ACV3



Check valve — Flare connection — Screw connection — Flange connection — Pinched pipe — Spinned pipe

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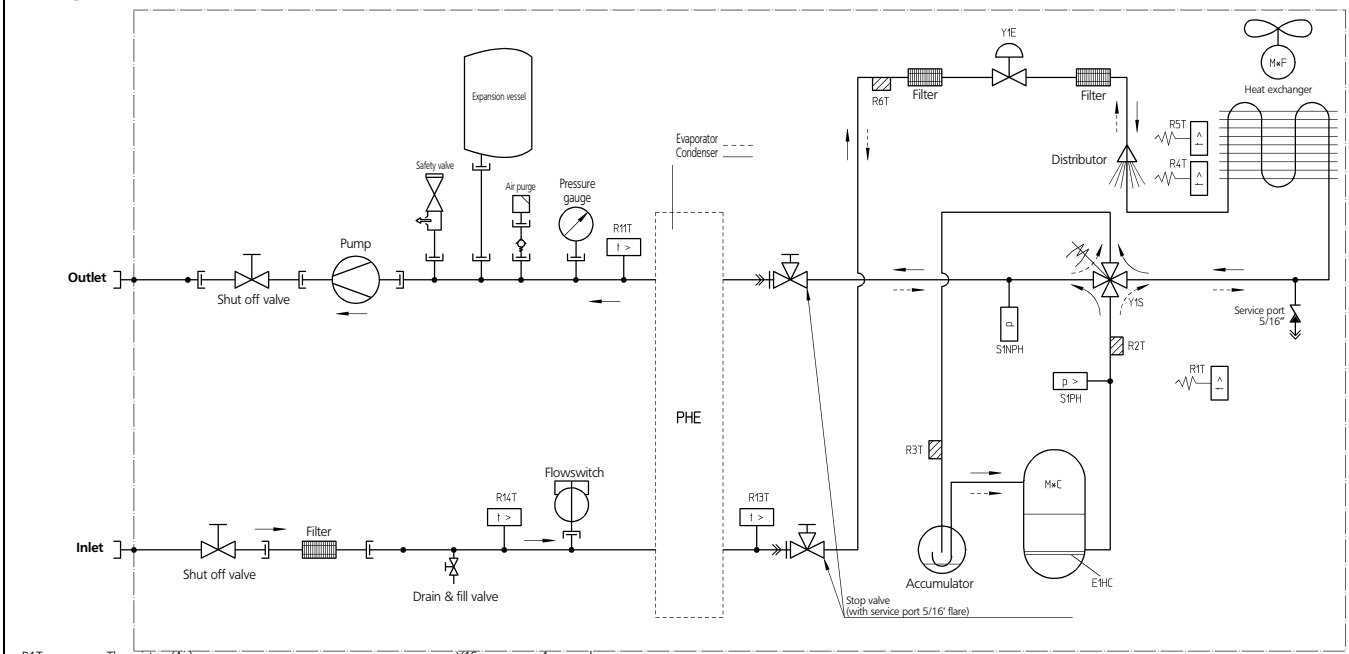
EWAQ009-013ACV3
EWYQ009-013ACV3



R1T : Thermistor (Air)
R2T : Thermistor (discharge)
R3T : Thermistor (Suction)
R4T : Thermistor (Liquid 1)
R5T : Thermistor (middle)
R6T : Thermistor (Liquid 2)
S1NPH : Pressure sensor
Y1E : Electronic expansion valve
E1HC : Crankcase heater
Y1S : 4-way valve
Y3S : Injection valve
S1PH : High pressure switch
M*F : Fan motor
M*C : Compressor
R11T : Outlet water heat-exchanger thermistor
R13T : Refrigerant liquid side thermistor
R14T : Inlet water thermistor

Heating
Cooling

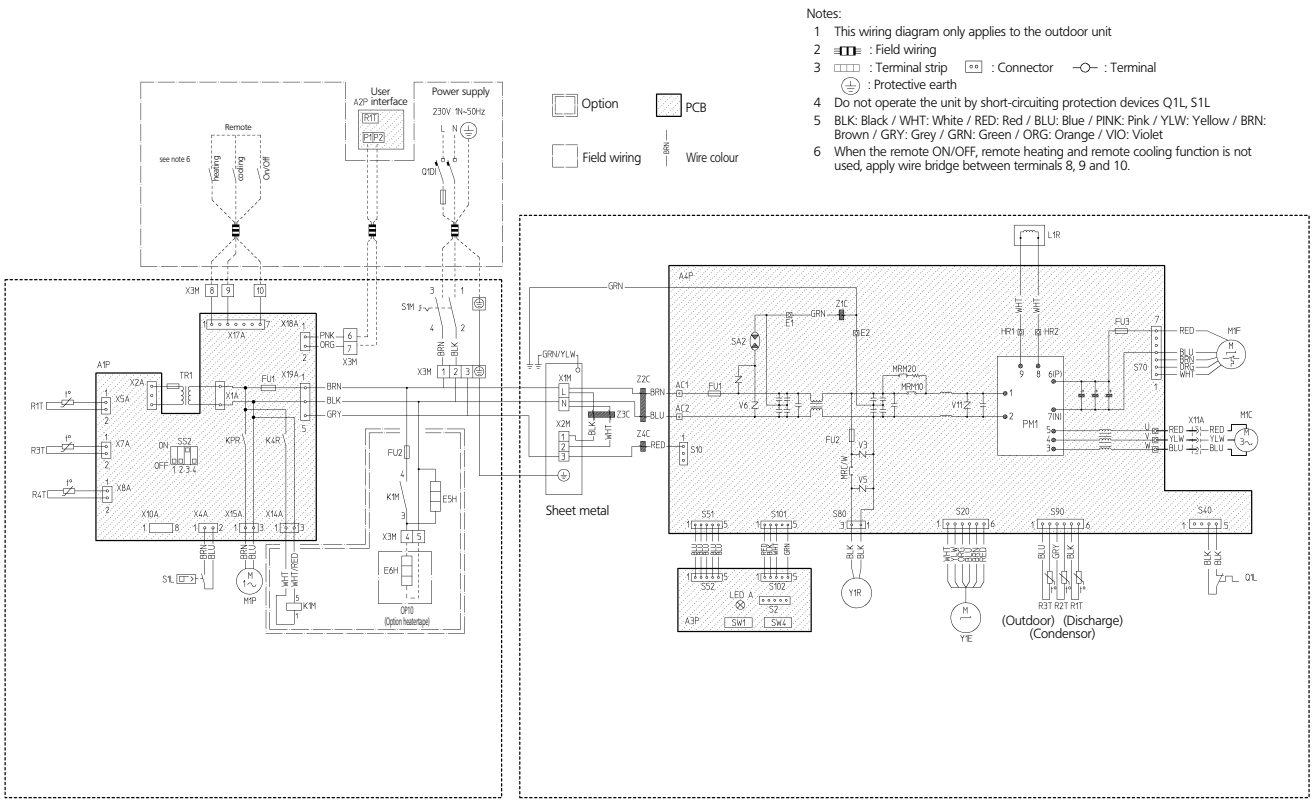
Check valve — Flare connection — Screw connection — Flange connection — Pinched pipe — Spinned pipe

3TW58255-1

6 Wiring diagram

6 - 1 Wiring diagram

EWAQ005-007ACV3
EWYQ005-007ACV3



Q1DI	Earth leakage protector
TR1	Transformer 24V for PCB
R4T	Inlet water thermistor
R3T	Refrigerant liquid side thermistor
R1T	Outlet water heat exchanger
S1L	Flowswitch
M1P	Pump
A2P	Remocom PCB (indoor)
A1P	Main PCB
S1M	Mainswitch
FU1	Fuse 3.15A T 250V
FU2	Fuse 5A 250V
X1A,X2A	Connector
X4A,X5A	Connector
X7A,X8A	Connector
X10A,X15A	Connector
X17A,X18A	Connector
X19A,X20A	Connector
E5H	Heatertape
E6H	Heatertape (Field supply)
SS2	Dipswitch
K1M	Relay
X3M	Terminal strip

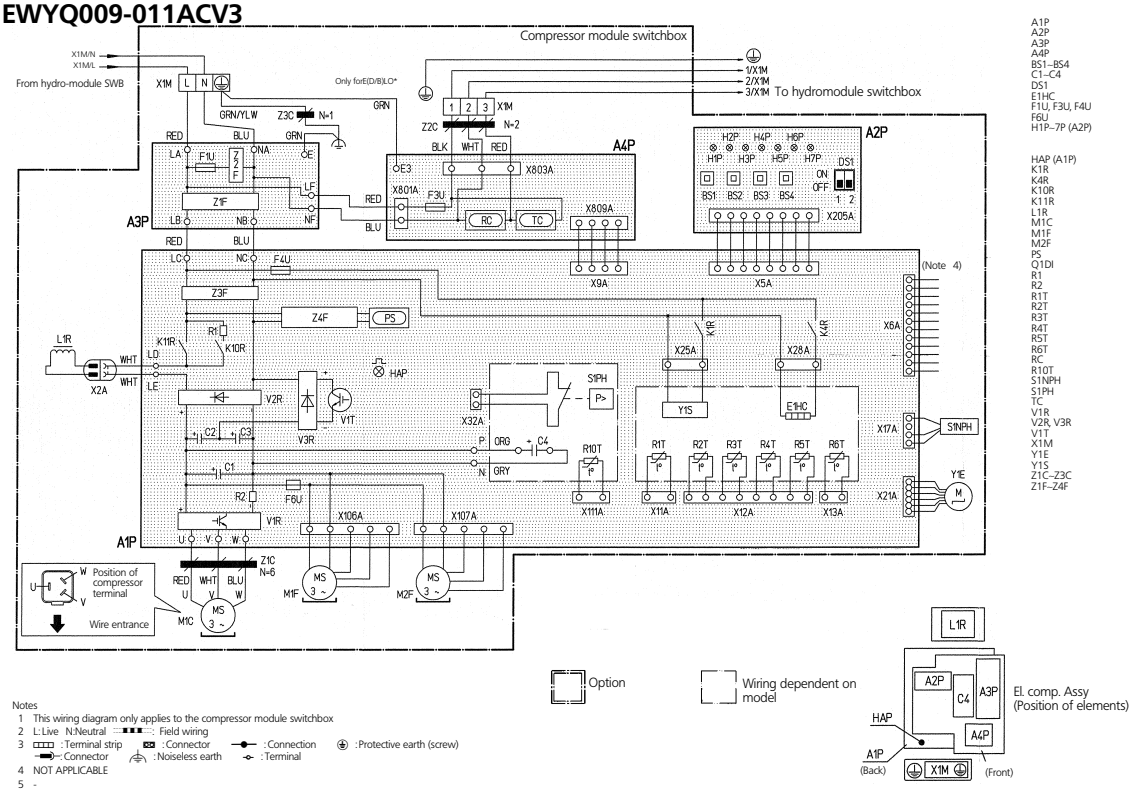
Z1C~Z4C	Ferrite core
X1M,X2M	Terminal strip
Y1E	Electronic expansion valve coil
V2,V3,V5,V6,V11	Varistor
SA2	Surge arrester
FU1	Fuse 30A 250V
FU2	Fuse 3.15A 250V
FU3	Fuse 3.15A 250V
AC1,AC2	
U,V,W,X11A	Connector
E1,E2	
HR1,HR2	Connector
MRM10,MRM20	Magnetic relay
MRC/W	Magnetic relay
R1T~R3T	Thermistor
S2~S102	Connector
LED A	Pilot lamp
L	Live
N	Neutral
SW1	Forced operation on/off SW (SW1)
SW4	Local setting SW (SW4)
M1C	Compressor motors
M1F	Fan motor
L1R	Reactor
Q1L	Overload protector
PM1	Power module
PCB1,2	Printed circuit board
Y1R	Reversing solenoid valve coil
Sheet metal	Terminal strip fixed plate

3TW57536-1A

6 Wiring diagram

6 - 1 Wiring diagram

EWAQ009-011ACV3
EWYQ009-011ACV3

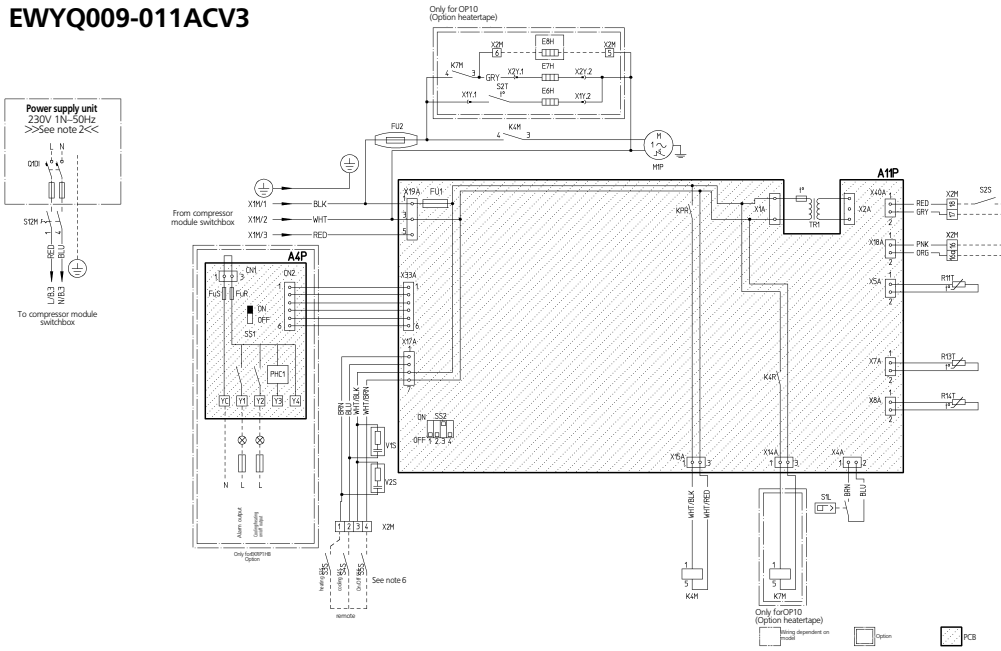


A1P	Printed circuit board (Main)
A2P	Printed circuit board (INV)
A3P	Printed circuit board (Noise filter)
A4P	Printed circuit board
BS1–BS4	Push button switch
C1–C4	Capacitor
DS1	DIP switch
E1HC	Crankcase heater
F1U, F3U, F4U	Fuse (T 6.3A/250V)
F6U	Fuse (T 5.0A/250V)
H1P–7P (A2P)	Light Emit. Diode (Serv. Monitor-Orange) Prepare, Test ---------- Flickering Malfunction Detection -- Light up
HAP (A1P)	Light emitting diode (service monitor green)
K1R	Magnetic relay (Y1S)
K4R	Magnetic relay (E1HC)
K10R	Magnetic relay
K11R	Magnetic relay
L1R	Reactor
M1C	Motor (Compressor)
M1F	Motor (Fan) (upper)
M2F	Motor (Fan) (lower)
PS	Switching power supply
Q1DI	Field earth leakage breaker (300mA)
R1	Resistor
R2	Resistor
R1T	Thermistor (Air)
R2T	Thermistor (Discharge)
R3T	Thermistor (Suction)
R4T	Thermistor (Heat exchanger)
R5T	Thermistor (heat exchanger middle)
R6T	Thermistor (Liquid)
RC	Signal receiver circuit
R10T	Thermistor (Fin)
S1NPH	Pressure sensor
S1PH	Pressure switch (High)
TC	Signal transmission circuit
V1R	Power module
V2R, V3R	Diode module
V1T	IGBT
X1M	Terminal strip (Power supply)
Y1E	Electronic expansion valve
Y1S	Solenoid valve (4 way valve)
Z1C–Z3C	Noise filter (ferrity core)
Z1F–Z4F	Noise filter

Notes
1 This wiring diagram only applies to the compressor module switchbox
2 L:Live N:Neutral : Field wiring
3 : Terminal strip : Connector : Connection : Protective earth (screw)
: Connector : Noiseless earth : Terminal
4 NOT APPLICABLE
5 -
6 Do not operate the unit by short-circuiting protection device S1PH
7 Colors: BLK: black, RED: red, BLU: blue, WHT: white, YLW: yellow, ORG: orange, BRN: brown, GRN: green
8 Confirm the method of setting the selector switches (DS1) by service manual. Factory setting of all switches: "OFF".

2TW58256-1

EWAQ009-011ACV3
EWYQ009-011ACV3



A11P	: Main PCB
A12P	: User interface PCB
A4P (EKRP1HB)	: Remote alarm PCB
E6H	: Expansion vessel heater
E7H	: water piping heater
E8H	: Heatertape (Field supply Max. 200W)
FU1	: Fuse 3,15A T 250V for PCB
FU2	: Fuse 5A T 250V
FuS, FuR	: Fuse 5A 250V Remote alarm PCB
K4M	: pump relay
K9M	: Heater relay
M1P	: Pump
PHC1	: Optcoupler input circuit
Q1DI	: Earth leakage protector
R11T	: Outlet water heat-exchanger thermistor
R13T	: Refrigerant liquid side thermistor
R14T	: Inlet water thermistor
S1L	: Flowswitch
S12M	: Main switch
S2S	: benefit kWh rate signal
S3S	: remote heating signal
S4S	: remote cooling signal
S5S	: remote ON/OFF signal
S2T	: thermostat expansion vessel heater
SS1; SS2	: DIP switch
TR1	: Transformer 24V for PCB
V1S, V2S	: Spark suppression 1, 2
X2M	: Terminal strips
X1-2Y	: Connector

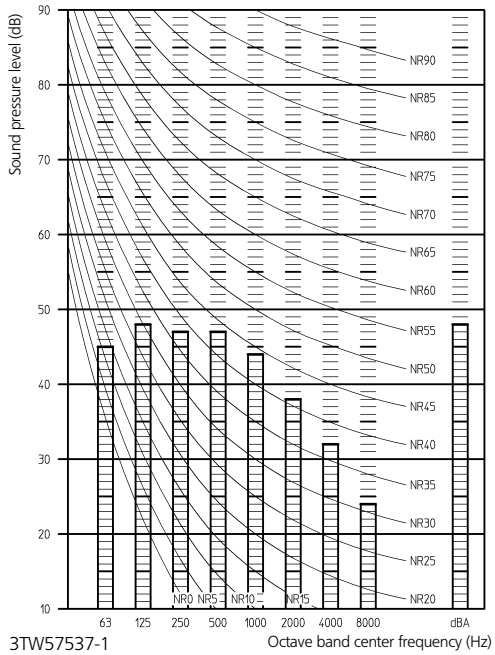
Notes:
1 This wiring diagram only applies to the hydromodule switchbox
2 Field wiring No/NC:Normal open/Normal closed
3 Terminal strip :Connector —○—Terminal :Protective earth
4 Do not operate the unit by short-circuiting any protection device.
5 BLK: Black / WHT: White / RED: Red / BLU: Blue / PINK: Pink / YLW: Yellow
BRN: Brown / GRY: Grey / GRN: Green / ORG: Orange / VIO: Violet
6 When the remote ON/OFF, remote heating and remote cooling function is not used, apply wire bridge between terminals 1, 2 and 4.

2TW58256-2B

7 Sound data

7 - 1 Sound pressure spectrum

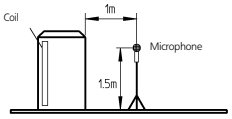
EWAQ005AC
EWYQ005AC (Cooling)



3TW57537-1

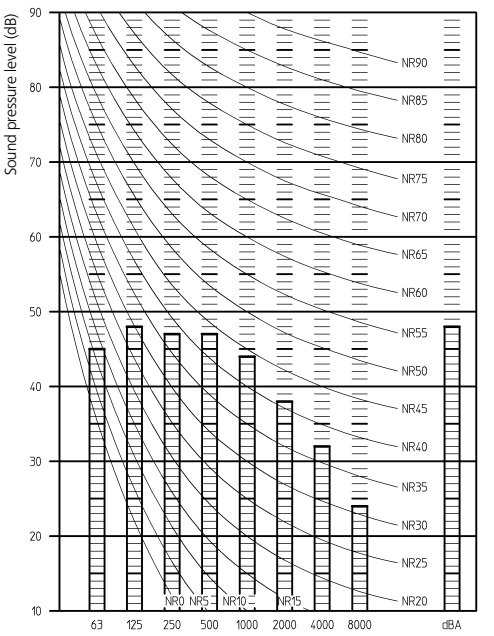
NOTES

1 Data is valid at free field condition (measured in a semi-anachoic room)
2 dB(A) = A-weighted sound pressure level (A-scale according to IEC)
3 Reference acoustic pressure 0dB = 20µPa
4 If sound is measured under actual installation conditions, the measured value will be higher due to environmental noise and sound reflections.



Location of microphone

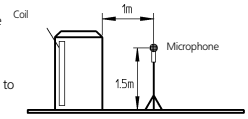
EWAQ006AC
EWYQ006AC (Cooling)



3TW57537-1

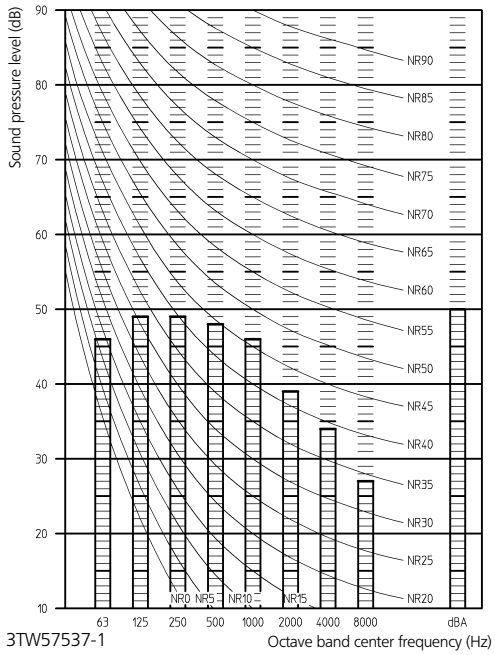
NOTES

1 Data is valid at free field condition (measured in a semi-anachoic room)
2 dB(A) = A-weighted sound pressure level (A-scale according to IEC)
3 Reference acoustic pressure 0dB = 20µPa
4 If sound is measured under actual installation conditions, the measured value will be higher due to environmental noise and sound reflections.



Location of microphone

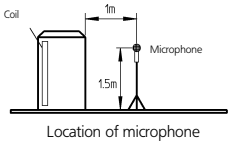
EWAQ007AC
EWYQ007AC (Cooling)



3TW57537-1

NOTES

1 Data is valid at free field condition (measured in a semi-anachoic room)
2 dB(A) = A-weighted sound pressure level (A-scale according to IEC)
3 Reference acoustic pressure 0dB = 20µPa
4 If sound is measured under actual installation conditions, the measured value will be higher due to environmental noise and sound reflections.



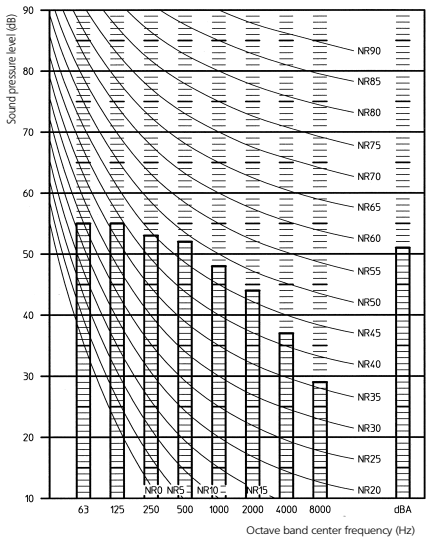
Location of microphone

7 Sound data

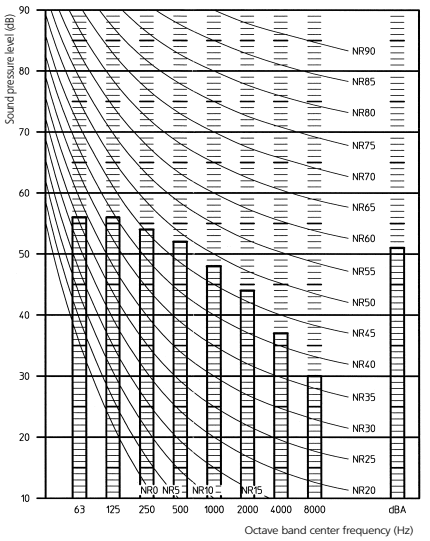
7 - 1 Sound pressure spectrum

EWAQ009-011ACV3
EWYQ009-011ACV3

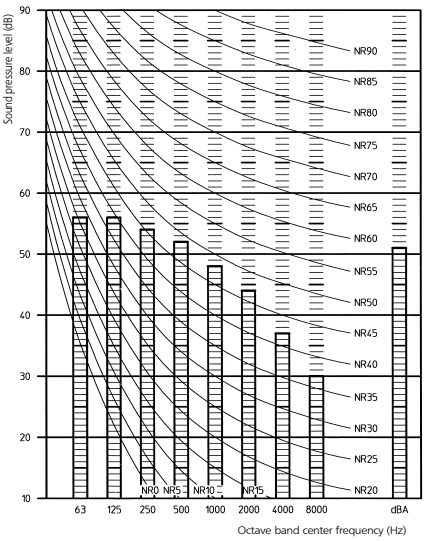
EW(A/Y)Q009ACV3
COOLING



EW(A/Y)Q010ACV3
COOLING

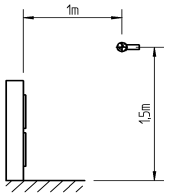


EW(A/Y)Q011ACV3
COOLING



Notes:

1 Data is valid at free field condition (measured in a semi-anachoic room)
2 dBA = A-weighted sound power level (A-scale according to IEC)
3 Reference acoustic pressure 0dB = 20µPa
4 If sound is measured under actual installation conditions, the measured value will be higher due to environmental noise and sound reflections.



Measuring location (discharge side)

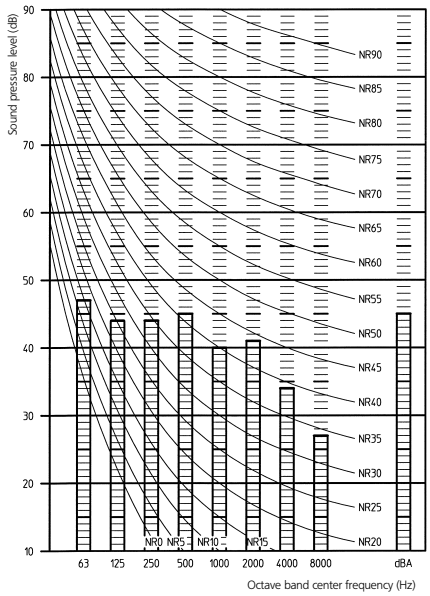
3TW58257-1

7 Sound data

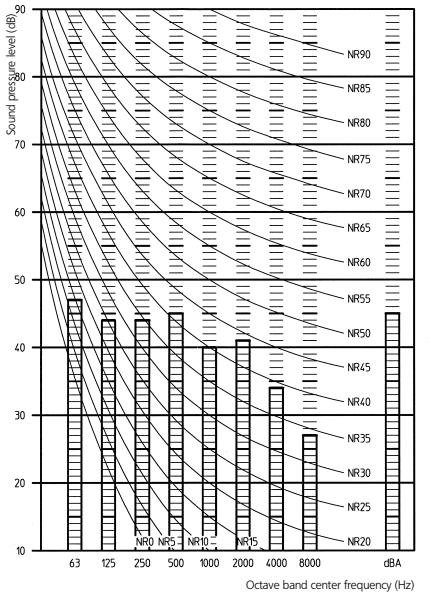
7 - 2 Sound pressure spectrum quiet mode

EW(A/Y)Q009-011ACV3 - night quiet mode

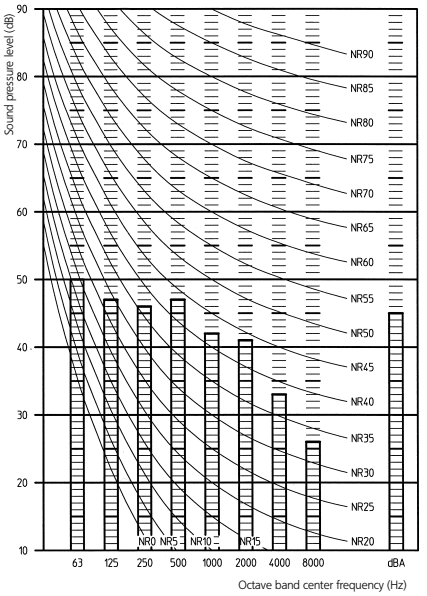
EW(A/Y)Q009ACV3
COOLING



EW(A/Y)Q010ACV3
COOLING

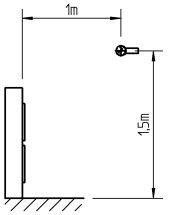


EW(A/Y)Q011ACV3
COOLING



Notes:

1 Data is valid at free field condition (measured in a semi-anachoic room)
2 dBA = A-weighted sound power level (A-scale according to IEC)
3 Reference acoustic pressure 0dB = 20µPa
4 If sound is measured under actual installation conditions, the measured value will be higher due to environmental noise and sound reflections.



Measuring location (discharge side)

3TW58257-3

7 Sound data

7 - 3 Sound power spectrum

	Sound power total (dBA)	
	LwA - Cooling mode	**LwA - Heating mode**
EWAQ005ACV3P* **	62	N/A
EWAQ006ACV3P* **	62	N/A
EWAQ007ACV3P* **	63	N/A
EWYQ005ACV3P* **	62	60
EWYQ006ACV3P* **	62	60
EWYQ007ACV3P* **	63	61

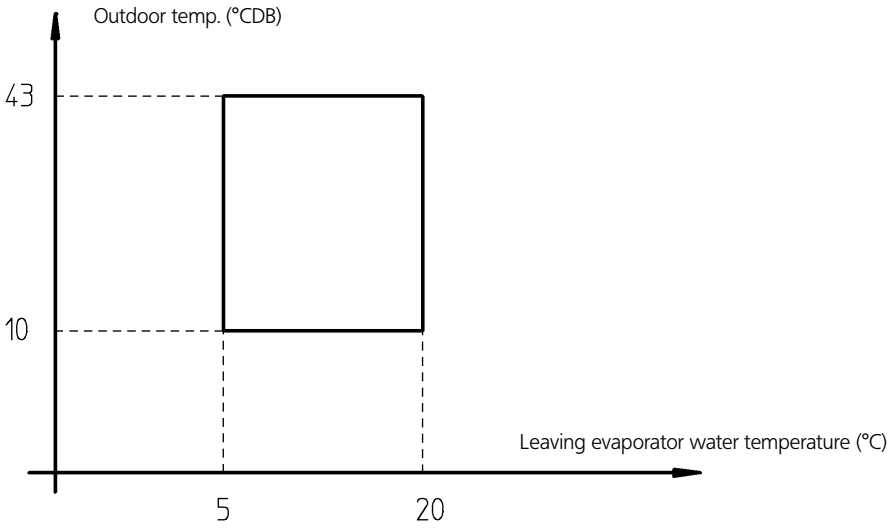
Notes:
- Data valid at nominal operation condition
- Measured according ISO3744

4TW57537-3A

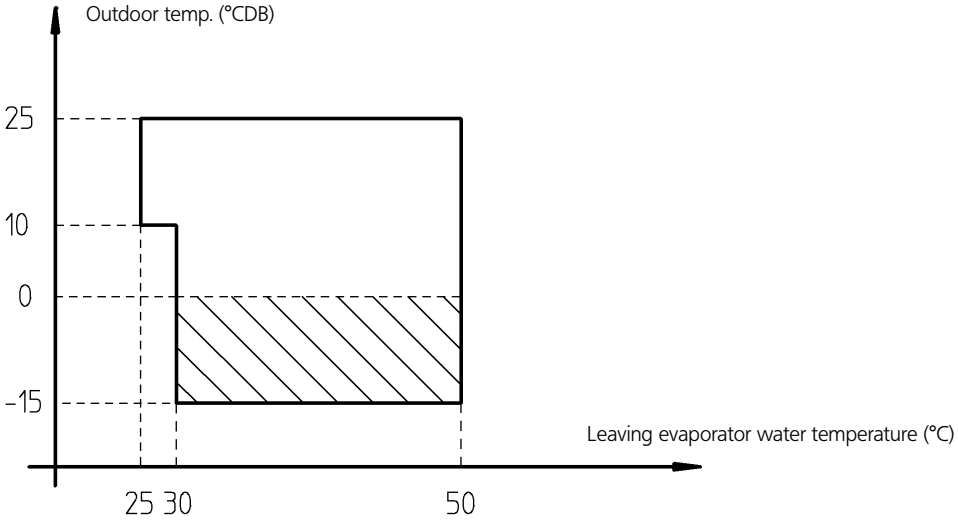
8 Operation range

EWAQ005-007ACV3
EWYQ005-007ACV3

Cooling mode



Heating mode

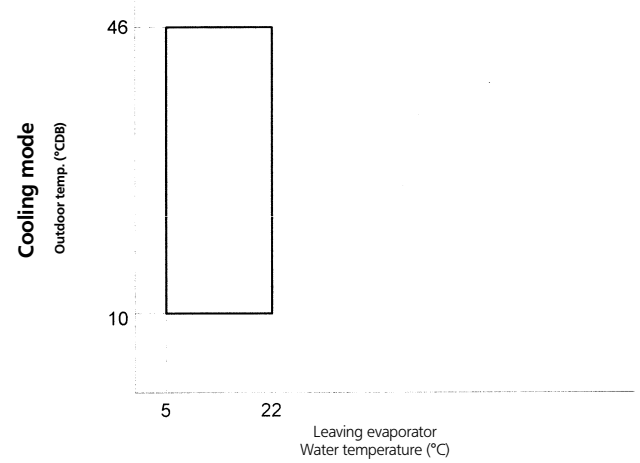


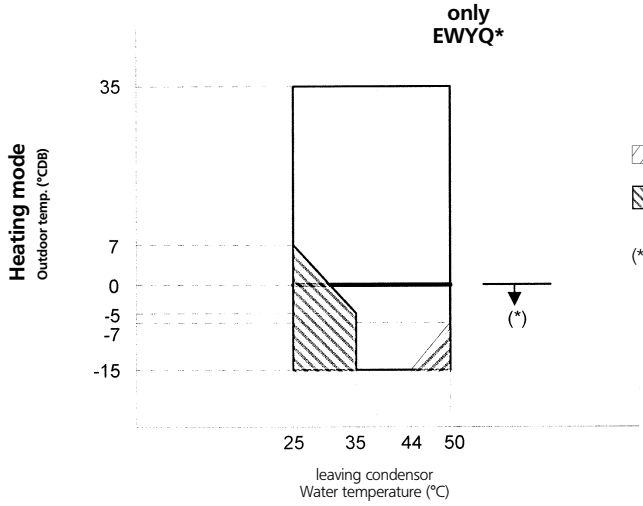
: Protect the water circuit against freezing

4TW57533-1A

8 Operation range

EWAQ009-011ACV3
EWYQ009-011ACV3





No heatpump operation.

In this area the minimum watervolume must be increased to 40l

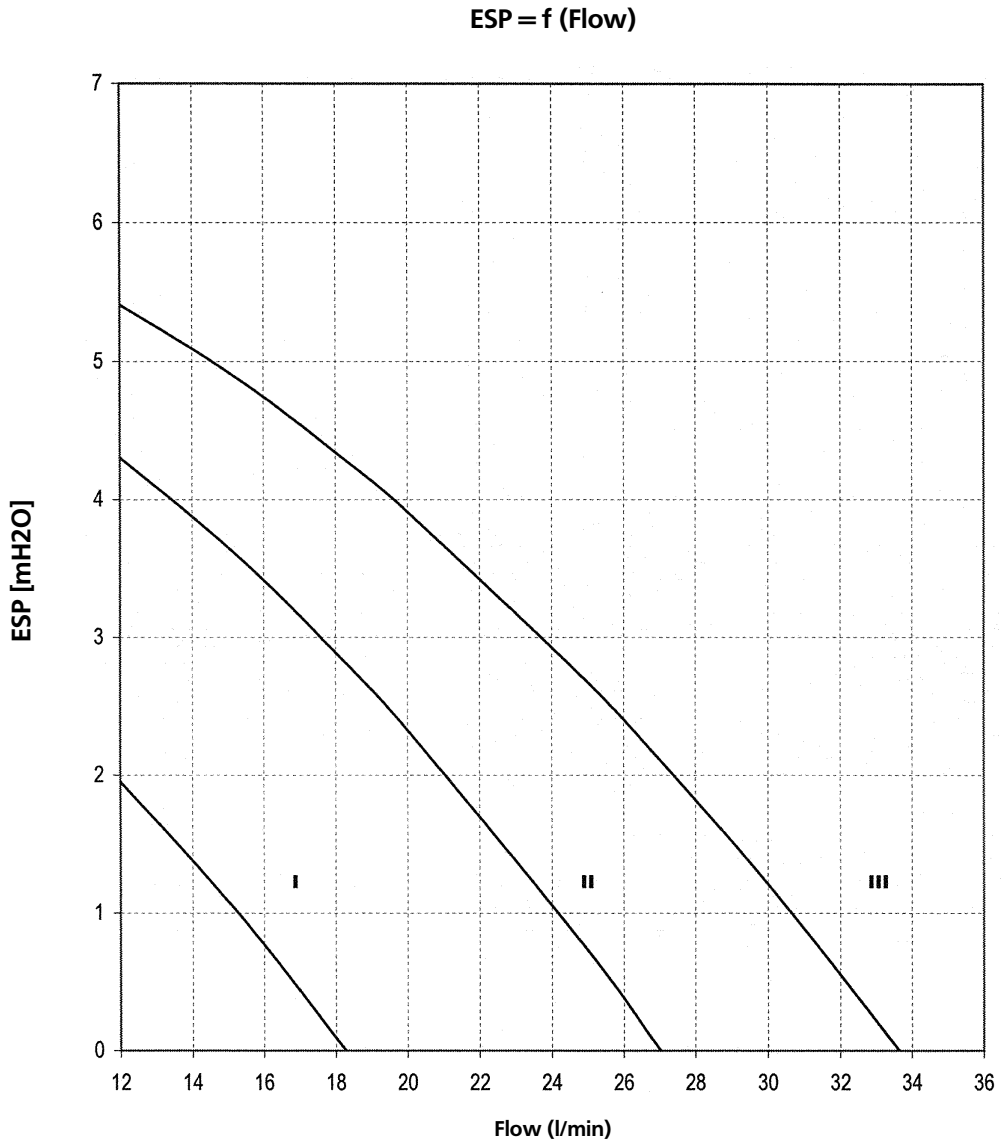
(*) In case ambient temperatures below 0°C are likely to happen, we recommend to use
* Glycol (for more information, see installation manual),
or
* OP10 (Insulation+ heatertape around the waterpiping).

4TW58253-1A

9 Hydraulic performance

9 - 1 Static pressure drop unit

EWAQ005-007ACV3
EWYQ005-007ACV3



I: low speed setting pump
II: medium speed setting pump
III: high speed setting pump

ESP: External static pressure
Flow: waterflow trough the unit

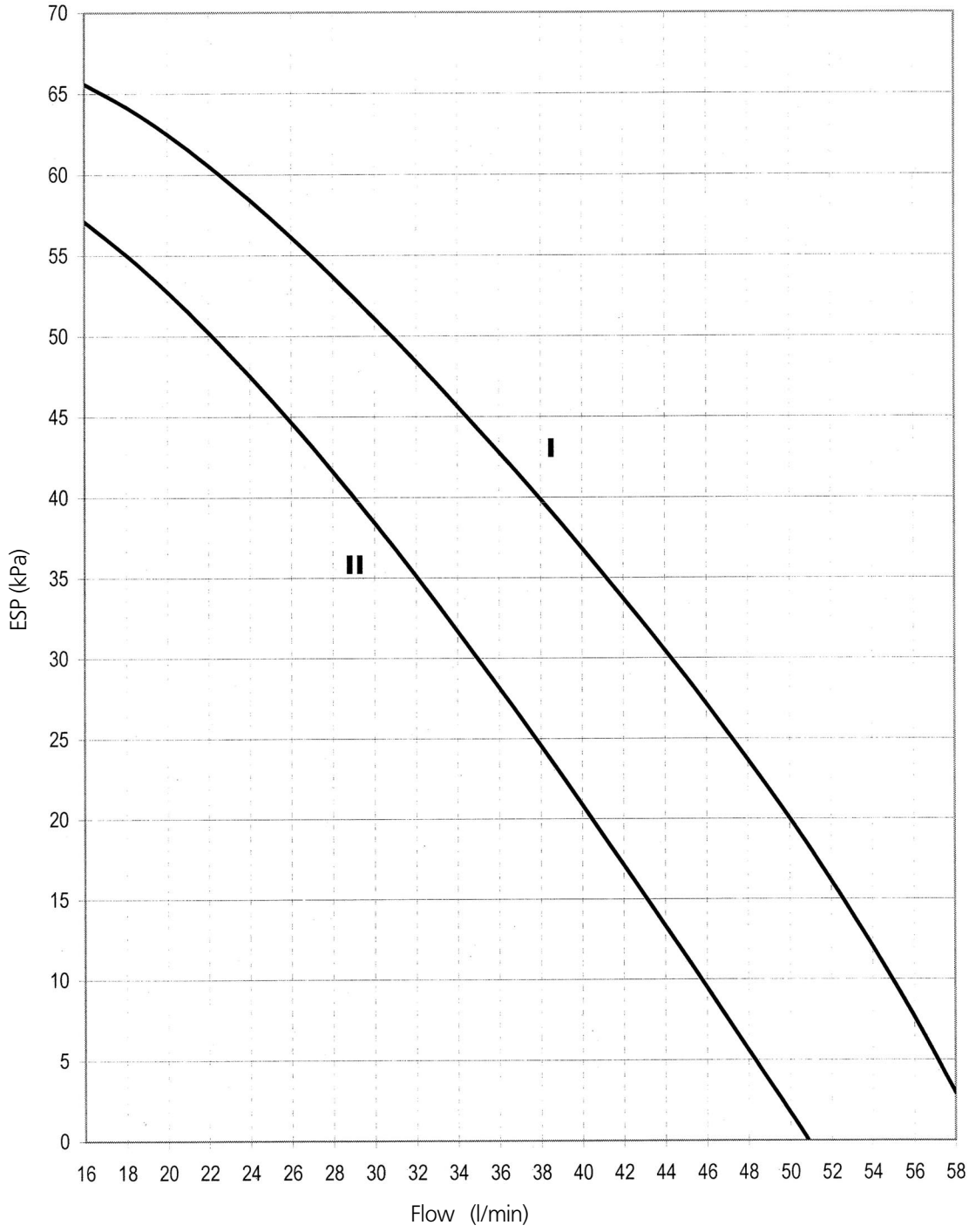
Warning: Selecting a flow outside the curves can cause damage to or malfunction of the unit. See also minimum and maximum allowed water flowrate in the technical specifications.

4TW56749-2

9 Hydraulic performance

9 - 1 Static pressure drop unit

EWAQ009-013AC
EWYQ009-013AC



I High speed
II medium speed
ESP: External static pressure
Flow: waterflow through the unit

WARNING
1. Selecting a flow outside the curves can cause damage to or malfunction of the unit. See also minimum and maximum allowed water flowrange in the technical specifications.
2. Water quality must be according to EN directive EC 98/83 EC.

4TW58259-2A

TABLE OF CONTENTS

EWAQ-ACW1

1 Specifications

1-1 TECHNICAL SPECIFICATIONS				EWAQ009ACW1	EWAQ011ACW1	EWAQ013ACW1
Capacity (Eurovent)	Cooling	Nominal	kW	9.0	11.0	13.2
Capacity control	Type			Inverter controlled		
Capacity	Cooling	Nominal	kW	12.8	15.5	16.9
Nominal input (Eurovent)	Cooling		kW	2.96	3.82	5.10
Nominal input	Cooling		kW	2.99	4.05	5.44
EER (Eurovent)				3.04	2.88	2.59
EER				4.28	3.84	3.11
ESEER				4.68	4.63	4.52
Casing	Colour			Ivory white		
	Material			Galvanized and painted steel sheet		
Dimensions	Unit	Height	mm	1,435		
		Width	mm	1,418		
		Depth	mm	382	382	382
	Unit with packing	Height	mm	1,574		
		Width	mm	1,500		
		Depth	mm	430	430	430
Weight	Unit		kg	180	180	180
	Gross weight		kg	200	200	200
Packing	Material			EPS		
				Wood		
				Carton		
				PP (Straps)		
	Weight		kg	20	20	20
Water Heat Exchanger	Type			Brazed plate		
	Quantity			1	1	1
	Water volume		l	1.01	1.01	1.01
	Water flow rate	Min	l/min	16	16	16
		Max	l/min	58	58	58
	Nominal Water Flow	Cooling	l/min	25.8	31.5	37.8
	Insulation material			Foamed synthetic elastomer		
Air heat exchanger	Length		mm	857	857	857
	Type			Hi-XSS(8)		
	Rows			2	2	2
	Stages			60	60	60
	Fin Pitch		mm	1.4	1.4	1.4
	Passes	Quantity		5	5	5
	Face Area		m²	1.131		
	Fin	Type		WF fin		
		Treatment		Anti-corrosion treatment (PE)		
Pump	Type			Water cooled		
	Quantity			1	1	1
	Nominal ESP unit	Cooling	kPa	56.4	49.1	40.9
	Power input		W	210	210	210
Hydraulic components	Expansion vessel	Volume	l	10	10	10
		Max. water pressure	bar	3	3	3
		Pre-pressure	bar	1.0	1.0	1.0
	Water filter	Diameter perforations	mm	1	1	1
		Material		brass		
Fan	Type			Propeller		
	Drive			Direct drive		
	Model	Motor		Brushless DC motor		
		Quantity		2	2	2
		Speed	steps	8	8	8
			rpm	780	780	780
		Motor Output	W	70	70	70
		Discharge direction		Horizontal		

1 Specifications

1-1 TECHNICAL SPECIFICATIONS				EWAQ009ACW1	EWAQ011ACW1	EWAQ013ACW1
Compressor	Type			Hermetically sealed scroll compressor		
	Refrigerant oil type			FVC68D		
	Refrigerant oil charge		l	1.0	1.0	1.0
	Model	Quantity		1	1	1
		Model		JT1G-VDYR@S		
		Motor Output	W	2,200		
		Starting Method		Inverter driven		
		Crankcase Heater	W	33	33	33
Sound level	Sound Power	Cooling	dBA	64	64	66
	Sound Pressure	Cooling	dBA	51	51	52
Sound Level (Night quiet)	Sound Pressure	Cooling	dBA	45	45	46
Operation Range	Water side	Min	°CDB	5	5	5
		Max	°CDB	22	22	22
	Air side	Min	°CDB	10	10	10
		Max	°CDB	46	46	46
Refrigerant circuit	Refrigerant type			R-410A		
	Refrigerant charge		kg	2.95	2.95	2.95
	No of circuits			1	1	1
	Refrigerant control			Electronic expansion valve		
Water circuit	Piping connections		inch	G5/4 (FEMALE)		
	Piping		inch	5/4		
	Safety valve		bar	3	3	3
	Manometer			Yes		
	Drain valve / Fill valve			yes		
	Shut off valve			yes		
	Air purge valve			yes		
	Total water volume		l	4	4	4
	Minimum water volume in the system		l	20	20	20
Safety Devices				High pressure switch		
				Fan thermal protector		
				Fuse		
Notes				Nominal cooling capacity, cooling power input and EER at Eurovent conditions: ambient 35°C; evaporator 7°C (dT = 5°C)		
				Nominal cooling capacity, cooling power input and EER at non-Eurovent conditions: ambient 35°C; evaporator 18°C (dT = 5°C)		
				The sound pressure level is measured via a microphone at a certain distance from the unit. It is a relative value depending on the distance and acoustic environment. Refer to sound spectrum drawing for more information.		
				Water circuit total water volume: including piping + PHE/excluding expansion vessel		
				Water circuit minimum water volume system: excluding water volume in the unit. In most applications this minimum water volume will have a satisfying result. In critical processes or in rooms with a high heat load though, extra water volume might be required. Refer to operation range for more info.		
Defrost Method				Pressure equalising		
Defrost Control				Sensor for outdoor heat exchanger temperature		

1-2 ELECTRICAL SPECIFICATIONS				EWAQ009ACW1	EWAQ011ACW1	EWAQ013ACW1
Power Supply	Name			W1		
	Phase			3N~		
	Frequency		Hz	50		
	Voltage		V	400		
	Voltage Tolerance	Minimum	%	-10%		
		Maximum	%	+10%		
Unit	Recomended fuses		A	20		
Wiring connections				cf. installation manual		

2 Options

EWA(Y)Q009-013AC

Optional equipment for EWA/YQ*A*V3/W1P(on)

Modelnumber

EWAQ009A*V3P(on) EWYQ009A*V3P(on)
EWAQ010A*V3P(on) EWYQ010A*V3P(on)
EWAQ011A*V3P(on) EWYQ011A*V3P(on) (on) = option number

EWAQ009A*W1P(on) EWYQ009A*W1P(on)
EWAQ011A*W1P(on) EWYQ011A*W1P(on)
EWAQ013A*W1P(on) EWYQ013A*W1P(on)

Option number	Option description	(on)	Unit size						Availability
			EWAQ009A*V3P(on)	EWAQ010A*V3P(on)	EWAQ011A*V3P(on)	EWYQ009A*V3P(on)	EWYQ010A*V3P(on)	EWYQ011A*V3P(on)	
OP10	Standard unit available options evaporator + waterpiping heatertape		○	○	○	○	○	○	factory mounted
EKRP1HB	Digital I/O PCB (1)	-H-	○	○	○	○	○	○	option kit
			EWAQ009A*W1P(on)	EWAQ011A*W1P(on)	EWAQ013A*W1P(on)	EWYQ009A*W1P(on)	EWYQ011A*W1P(on)	EWYQ013A*W1P(on)	
OP10	Standard unit available options evaporator heatertape		○	○	○	○	○	○	factory mounted
EKRP1HB	Digital I/O PCB (1)	-H-	○	○	○	○	○	○	option kit

3TW58259-1A

NOTES

1. Input/Output PCB that provides two additional output connections (remote alarm and remote ON/OFF signalisation)

3 Capacity tables

3 - 1 Cooling capacity tables

EWAQ009-013ACW1
EWYQ009-013ACW1

Maximum Cooling Capacity

	Tamb [°C]	20		25		30		35		40		45	
	LWE [°C]	CC [kW]	PI [kW]	CC [kW]	PI [kW]	CC [kW]	PI [kW]	CC [kW]	PI [kW]	CC [kW]	PI [kW]	CC [kW]	PI [kW]
EWA/YQ009 (W1)	7	10,91	2,02	10,27	2,33	9,64	2,65	9,00	2,96	8,03	3,24	7,06	3,53
	10	12,10	1,99	11,35	2,31	10,61	2,63	9,86	2,95	9,00	3,28	8,13	3,62
	13	13,33	1,96	12,50	2,29	11,66	2,62	10,82	2,95	9,99	3,32	9,16	3,69
	15	14,20	1,91	13,34	2,26	12,47	2,62	11,60	2,97	10,69	3,34	9,77	3,71
	18	15,51	1,85	14,60	2,23	13,69	2,61	12,77	2,99	11,73	3,37	10,70	3,75
	22	17,25	1,75	16,28	2,17	15,31	2,60	14,34	3,02	13,13	3,40	11,93	3,79
EWA/YQ011 (W1)	7	13,45	2,72	12,63	3,09	11,82	3,45	11,00	3,82	9,93	4,18	8,85	4,54
	10	14,97	2,75	14,07	3,13	13,17	3,50	12,27	3,88	11,24	4,26	10,22	4,65
	13	16,46	2,77	15,48	3,16	14,50	3,55	13,52	3,94	12,48	4,34	11,44	4,75
	15	17,41	2,77	16,38	3,18	15,36	3,58	14,33	3,98	13,20	4,39	12,07	4,80
	18	18,85	2,82	17,74	3,23	16,64	3,64	15,54	4,05	14,28	4,47	13,02	4,88
	22	20,76	2,85	19,55	3,28	18,35	3,71	17,15	4,13	15,71	4,56	14,28	4,99
EWA/YQ013 (W1)	7	14,64	3,86	14,52	4,22	14,03	4,63	13,20	5,10	11,71	4,89	10,36	5,39
	10	15,75	3,93	15,62	4,30	15,08	4,71	14,19	5,19	12,59	4,97	11,15	5,48
	13	17,30	4,00	17,14	4,37	16,55	4,80	15,58	5,28	13,83	5,06	11,57	5,56
	15	18,36	4,04	18,19	4,42	17,57	4,86	16,54	5,34	14,69	5,12	11,99	5,43
	18	19,98	4,11	19,30	4,50	18,26	4,95	16,89	5,44	14,78	5,21	12,13	5,01
	22	22,25	4,21	21,51	4,61	20,36	5,07	18,85	5,57	16,52	5,33	12,72	4,47

3TW58252-1B

SYMBOLS

CC : Cooling capacity at maximum operating frequency, measured acc. Eurovent 6/C/003-2006 (kW)
HC : Heating capacity at maximum operating frequency, measured acc. Eurovent 6/C/003-2006 (kW)
PI : Power input (kW), measured acc. Eurovent 6/C/003-2006 (kW)
LWE : Leaving Water Evaporator temperature (°C)
LWC : Leaving Water Condensor temperature (°C)
Tamb : Ambient temperature (°C) RH=85%

NOTES

1 **Cooling capacity**
Capacity is according to Eurovent rating standard 6/C/003-2006 and valid for chilled water range Dt = 3~8°C
Capacity values may not be extrapolated below 7°C leaving water temperature

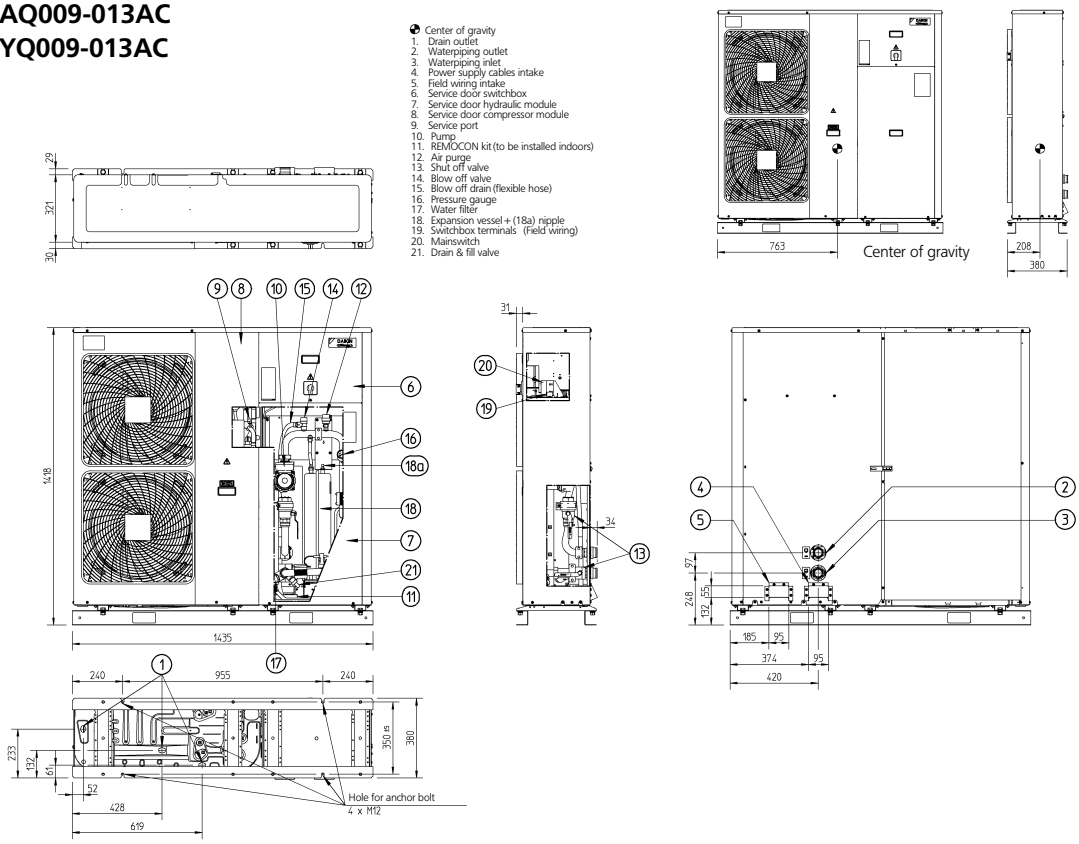
2 **Heating capacity**
Capacity is according to Eurovent rating standard 6/C/003-2006 and valid for chilled water range Dt = 3~8°C

3 **Power input**
Power input is total of indoor and outdoor unit, except the circulation pump; according to Eurovent rating standard 6/C/003-2006.
Pump power input to be added = 90 W (according EN14511).

4 Dimensional drawing

4 - 1 Dimensional drawing

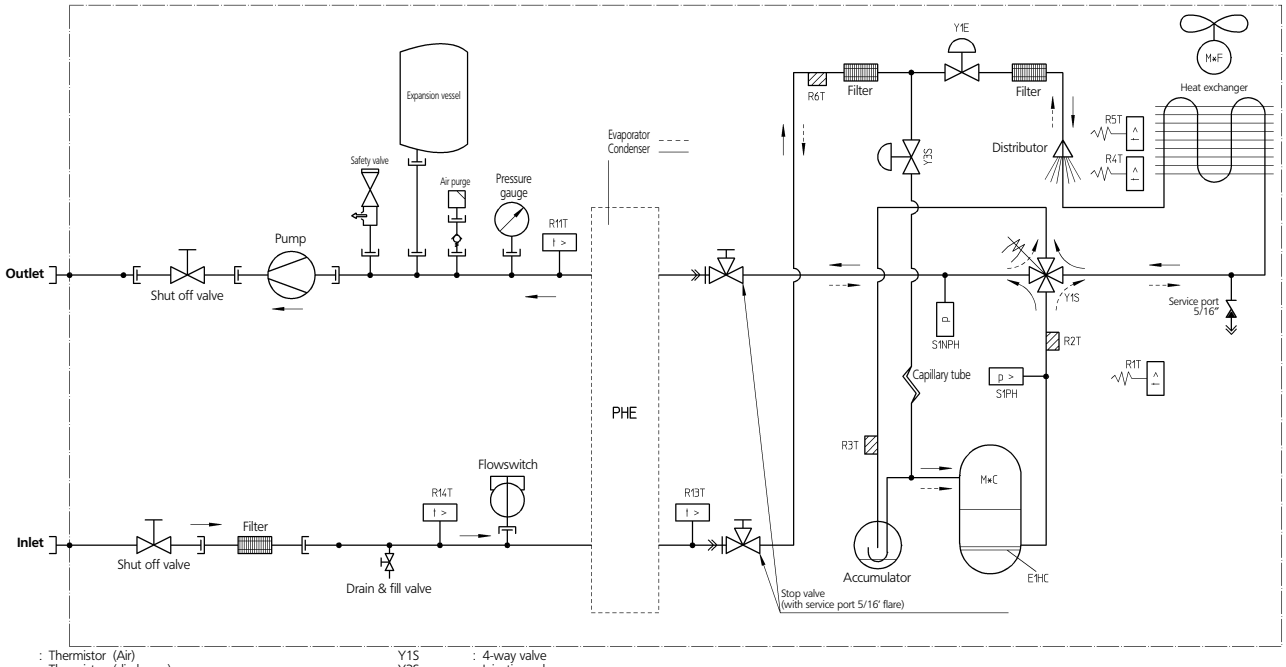
EWAQ009-013AC
EWYQ009-013AC



3TW58254-1

5 Piping diagram

EWAQ009-013ACW1
EWYQ009-013ACW1



R1T	: Thermistor (Air)	Y1S	: 4-way valve
R2T	: Thermistor (discharge)	Y3S	: Injection valve
R3T	: Thermistor (Suction)	S1PH	: High pressure switch
R4T	: Thermistor (Liquid 1)	M*F	: Fan motor
R5T	: Thermistor (middle)	M*C	: Compressor
R6T	: Thermistor (Liquid 2)	R11T	: Outlet water heat-exchanger thermistor
S1NPH	: Pressure sensor	R13T	: Refrigerant liquid side thermistor
Y1E	: Electronic expansion valve	R14T	: Inlet water thermistor
E1HC	: Crankcase heater		

Heating
Cooling

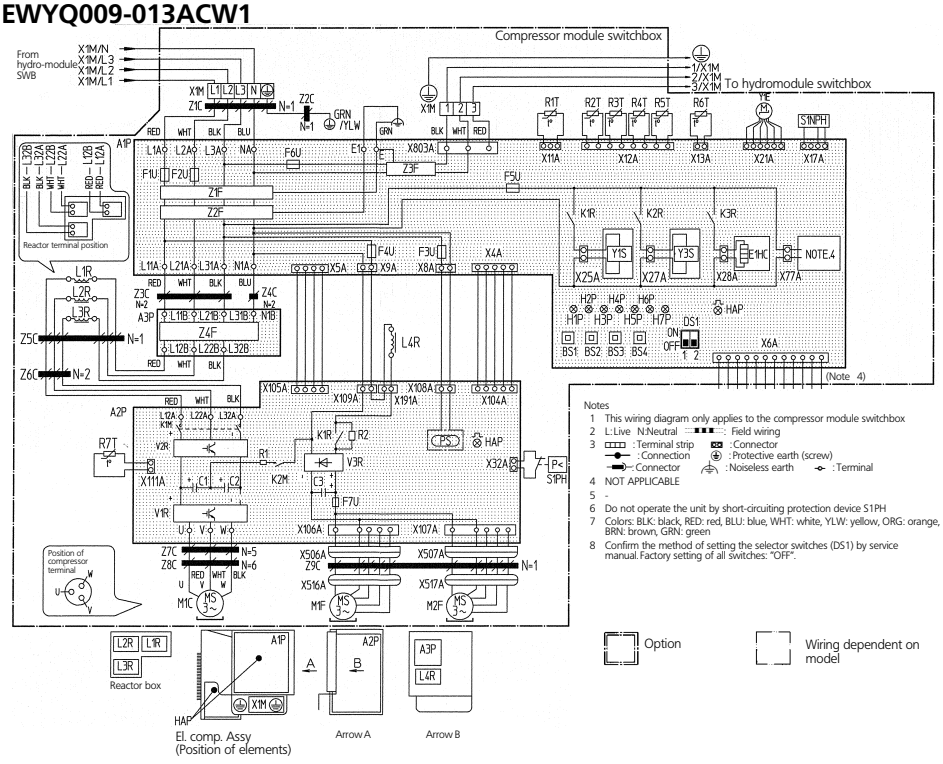
Check valve Flare connection Screw connection Flange connection Pinched pipe Spinned pipe

3TW58315-1

6 Wiring diagram

6 - 1 Wiring diagram

EWAQ009-013ACW1
EWYQ009-013ACW1

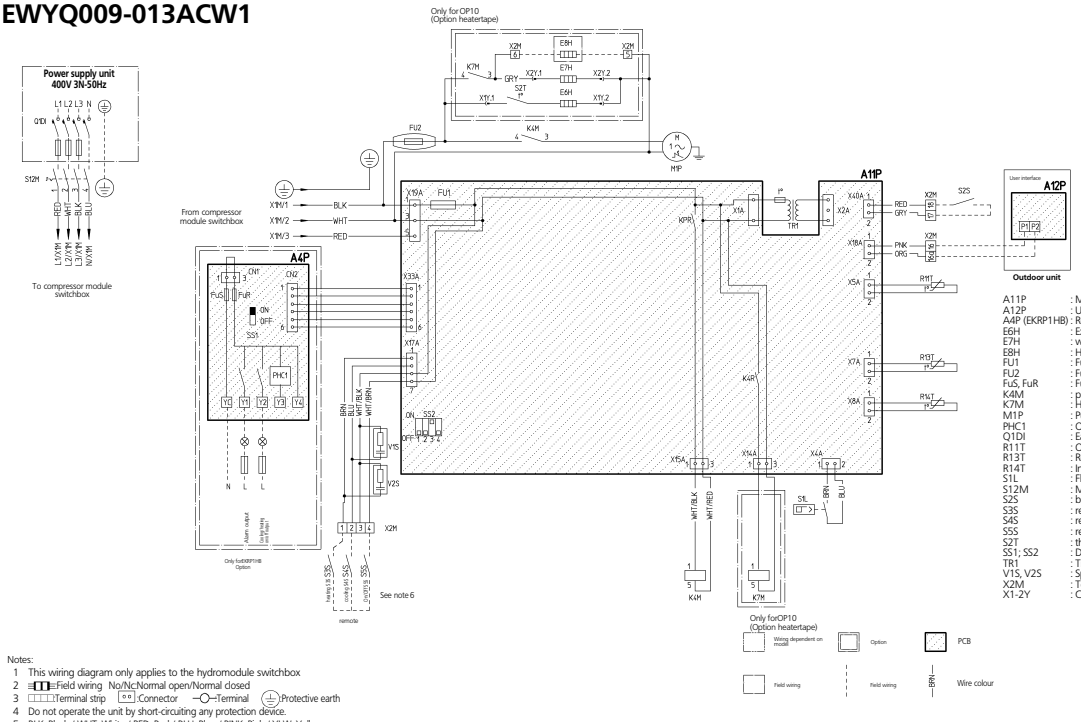


Notes
1 This wiring diagram only applies to the compressor module switchbox
2 L:Live N:Neutral : Field wiring
3 : Terminal strip : Connector : Connection : Protective earth (screw) : Connector : Noiseless earth : Terminal
4 NOT APPLICABLE
5 -
6 Do not operate the unit by short-circuiting protection device S1PH
7 Colors: BLK: black, RED: red, BLU: blue, WHT: white, YLW: yellow, ORG: orange, BRN: brown, GRN: green
8 Confirm the method of setting the selector switches (DS1) by service manual. Factory setting of all switches: "OFF".

A1P	Printed circuit board
A2P	Printed circuit board (INV)
A3P	Printed circuit board (Noise filter)
BS1–BS4	Push button switch
C1–C4	Capacitor
DS1	DIP switch
E1HC	Crankcase heater
F1U	Fuse (31.5A/250V)
F2U	Fuse (31.5A/250V)
F3U	Fuse (T 6.3A/250V)
F4U	Fuse (T 6.3A/250V)
F5U	Fuse (T 6.3A/250V)
F6U	Fuse (T 6.3A/250V)
F7U	Fuse (T 5.0A/250V)
HAP (A1P)	Pilot lamp (Service monitor-green)
HAP (A2P)	Pilot lamp (Service monitor-green)
H1P–7P (A1P)	Pilot lamp (Service monitor-orange)
K1M–K2M	Magnetic contactor
K1R (A1P)	Magnetic relay (Y1S)
K1R (A2P)	Magnetic relay
K2R (A1P)	Magnetic relay (Y2S)
K3R (A1P)	Magnetic relay (E1HC)
L1R–L3R	Reactor
L4R	Reactor (For outdoor fan motor)
M1C	Motor (Compressor)
M1F	Motor (Fan) (upper)
M2F	Motor (Fan) (lower)
PS	Switching power supply
R1–R4	Resistor
R1T	Thermistor (Air)
R2T	Thermistor (Discharge)
R3T	Thermistor (Suction)
R4T	Thermistor (Heat exchanger)
R5T	Thermistor (heat exchanger middle)
R6T	Thermistor (Liquid)
R7T	Thermistor (Fin)
S1NPH	Pressure sensor
S1PH	Pressure switch (High)
V1R-V2R	Power module
V3R	Diode module
X1M	Terminal strip (Power supply)
Y1E	Electronic expansion valve
Y3S	Solenoid valve
Z1C–Z9C	Noise filter
Z1F–Z4F	Noise filter
Optional connector	
X6A	Connector
X77A	Connector

2TW58316-1

EWAQ009-013ACW1
EWYQ009-013ACW1



A11P	: Main PCB
A12P	: User interface PCB
A4P (EKRP1HB)	: Remote alarm PCB
E6H	: Expansion vessel heater
E7H	: water piping heater
E8H	: Heatertape (Field supply Max. 200W)
FU1	: Fuse 3,15A T 250V for PCB
FU2	: Fuse 5A T 250V
FuS, FuR	: Fuse 5A 250V Remote alarm PCB
K4M	: pump relay
K7M	: Heater relay
M1P	: Pump
PHC1	: Optocoupler input circuit
Q1DI	: Earth leakage protector
R11T	: Outlet water heat-exchanger thermistor
R13T	: Refrigerant liquid side thermistor
R14T	: Inlet water thermistor
S1L	: Flowswitch
S12M	: Main switch
S2S	: benefit kWh rate signal
S3S	: remote heating signal
S4S	: remote cooling signal
S5S	: remote ON/OFF signal
S2T	: thermostat expansion vessel heater
SS1, SS2	: DIP switch
TR1	: Transformer 24V for PCB
V1S, V2S	: Spark suppression 1, 2
X2M	: Terminal strips
X1-2Y	: Connector

Notes:
1 This wiring diagram only applies to the hydromodule switchbox
2 Field wiring No/Nc:Normal open/Normal closed
3 Terminal strip :Connector Terminal :Protective earth
4 Do not operate the unit by short-circuiting any protection device.
5 BLK: Black / WHT: White / RED: Red / BLU: Blue / PINK: Pink / YLW: Yellow
BRN: Brown / GRY: Grey / GRN: Green / ORG: Orange / VIO: Violet
6 When the remote ON/OFF, remote heating and remote cooling function is not used, apply wire bridge between terminals 1, 2 and 4.

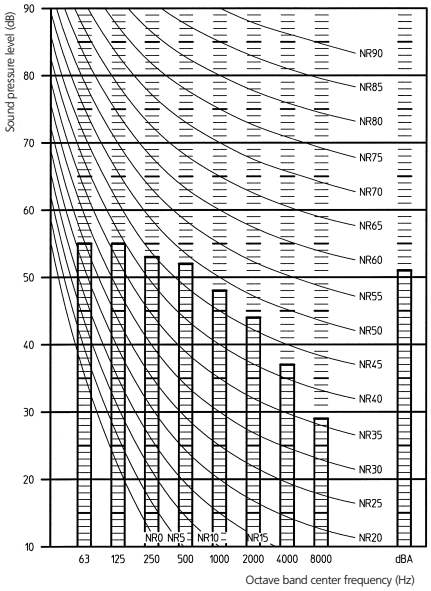
2TW58316-2B

7 Sound data

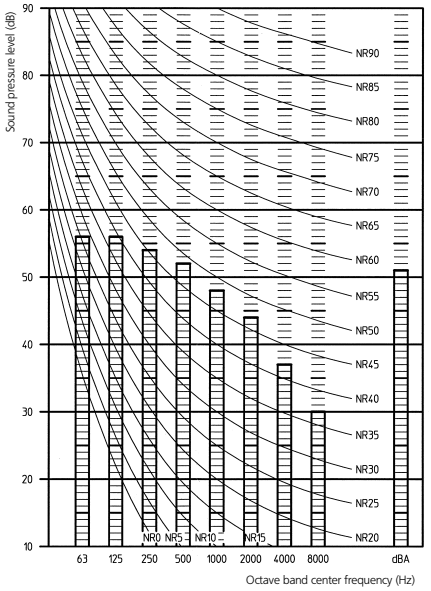
7 - 1 Sound pressure spectrum

EWAQ009-013ACW1
EWYQ009-013ACW1

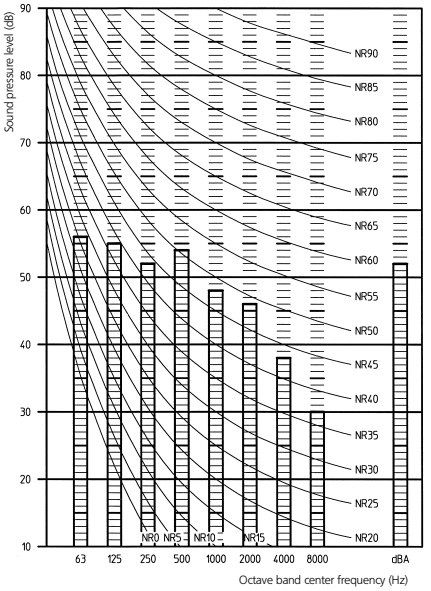
EW(A/Y)Q009ACW1
COOLING



EW(A/Y)Q011ACW1
COOLING

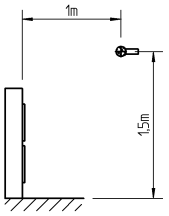


EW(A/Y)Q013ACW1
COOLING



Notes:

1. Data is valid at free field condition (measured in a semi-anachoic room)
2. dBA = A-weighted sound power level (A-scale according to IEC)
3. Reference acoustic pressure 0dB = 20µPa
4. If sound is measured under actual installation conditions, the measured value will be higher due to environmental noise and sound reflections.



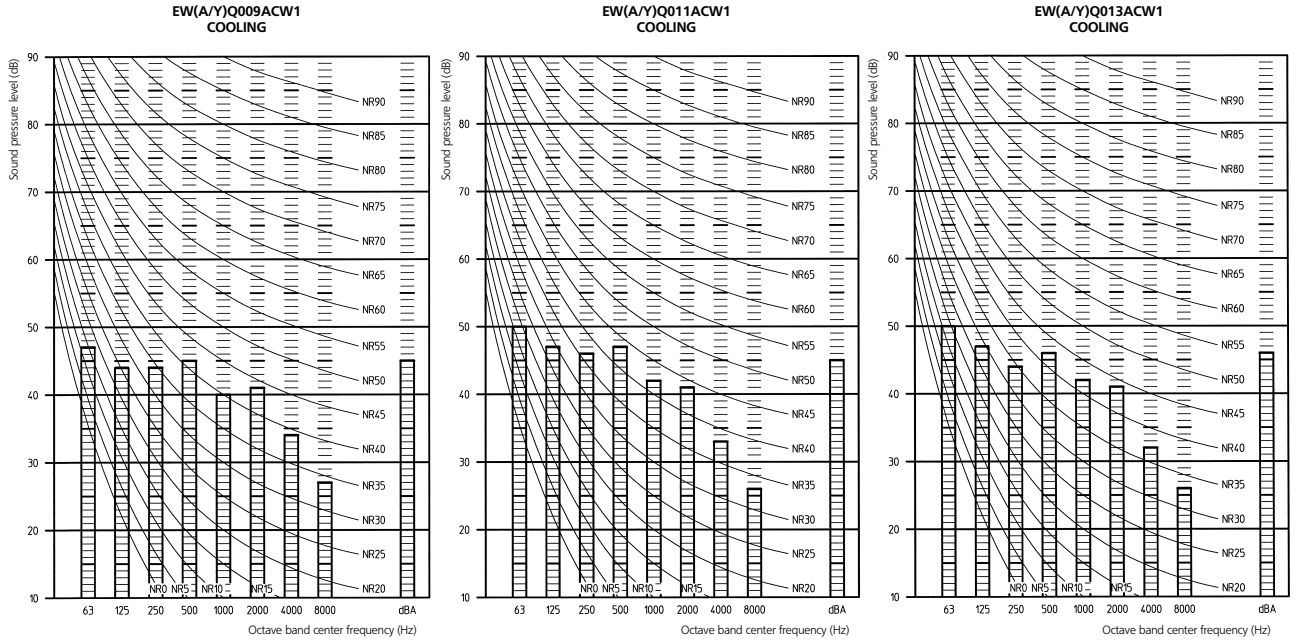
Measuring location (discharge side)

3TW58257-1

7 Sound data

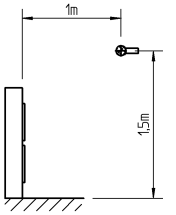
7 - 2 Sound pressure spectrum quiet mode

EW(A/Y)Q009-013ACW1 - night quiet mode



Notes:

1. Data is valid at free field condition (measured in a semi-anachoic room)
2. dBA = A-weighted sound power level (A-scale according to IEC)
3. Reference acoustic pressure 0dB = 20µPa
4. If sound is measured under actual installation conditions, the measured value will be higher due to environmental noise and sound reflections.

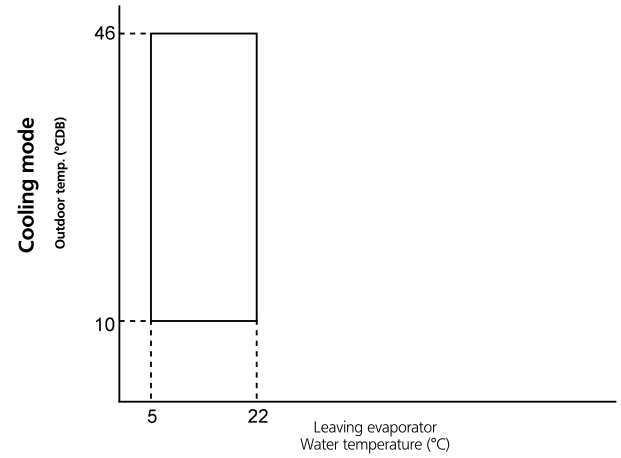


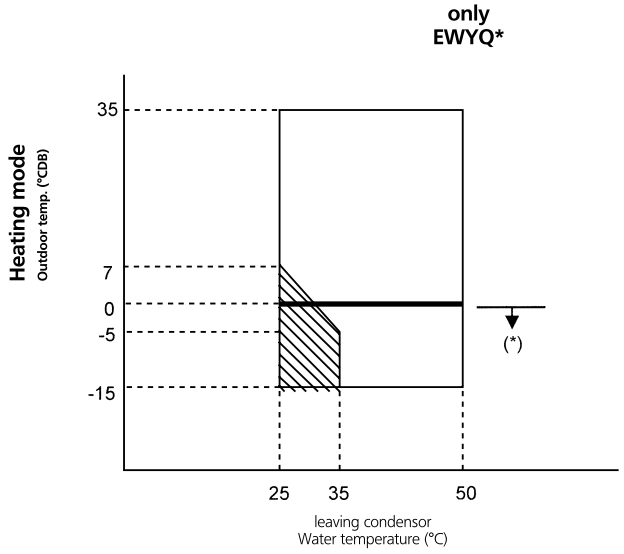
Measuring location (discharge side)

3TW58257-3

8 Operation range

EWAQ009-013ACW1
EWYQ009-013ACW1





No heatpump operation.

In this area the minimum watervolume must be increased to 40l

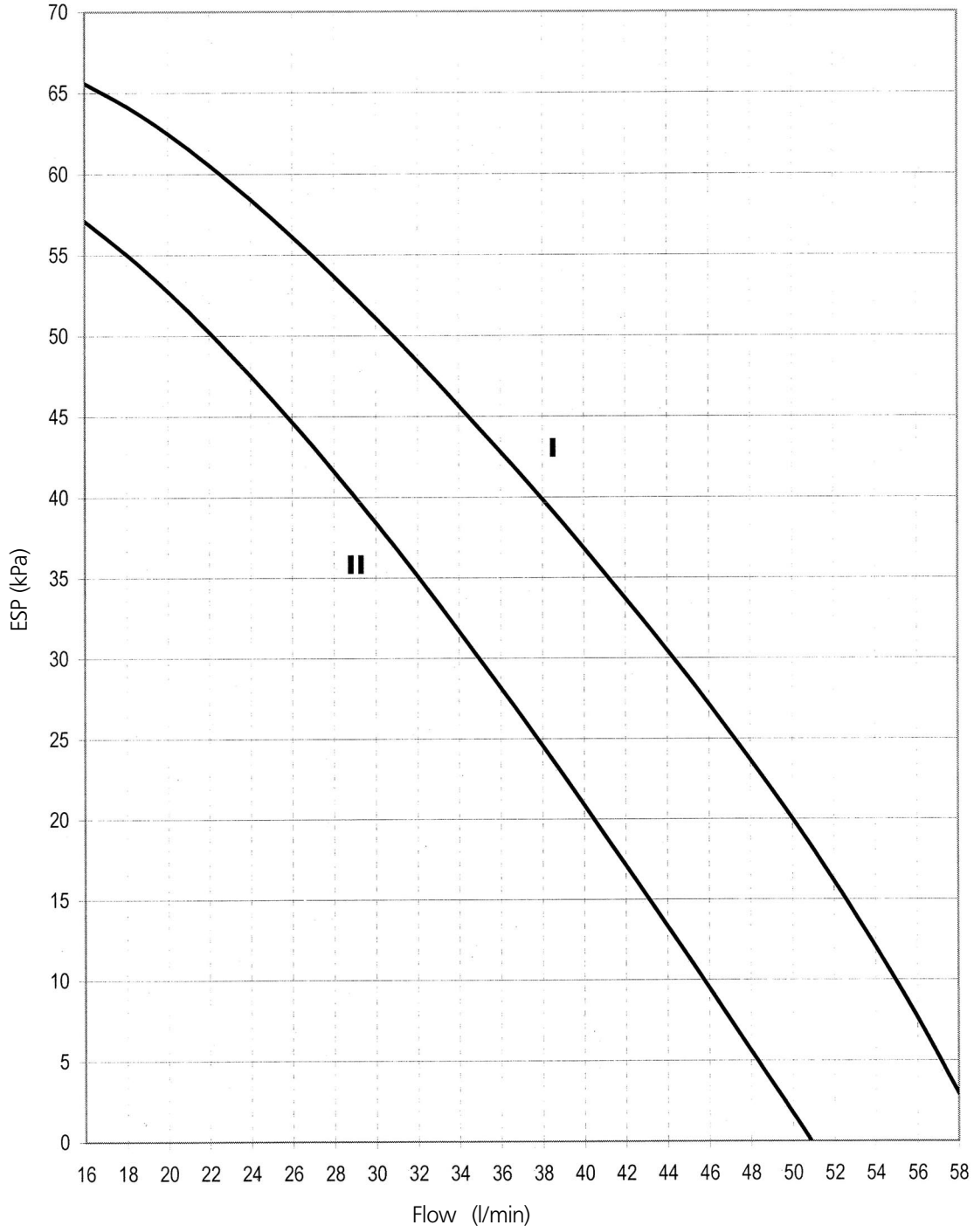
(*) In case ambient temperatures below 0°C are likely to happen, we recommend to use
* Glycol (for more information, see installation manual), or
* OP10 (Insulation+ heatertape around the waterpiping).

4TW58313-1A

9 Hydraulic performance

9 - 1 Static pressure drop unit

EWAQ009-013AC
EWYQ009-013AC



I High speed
II medium speed
ESP: External static pressure
Flow: waterflow through the unit

WARNING
1. Selecting a flow outside the curves can cause damage to or malfunction of the unit. See also minimum and maximum allowed water flowrange in the technical specifications.
2. Water quality must be according to EN directive EC 98/83 EC.

4TW58259-2A

TABLE OF CONTENTS

EWYQ-ACV3

1 Specifications

1-1 TECHNICAL SPECIFICATIONS				EWYQ005ACV3	EWYQ006ACV3	EWYQ007ACV3
Capacity (Eurovent)	Cooling	Minimum	kW	4.01	4.01	4.01
		Nominal	kW	5.2	6.0	7.1
		Maximum	kW	5.2	6.0	7.1
	Heating	Minimum	kW	4.09	4.09	4.09
		Nominal	kW	5.65	6.35	7.75
		Maximum	kW	6.83	8.13	8.73
Capacity	Heating	Minimum	kW	4.5	4.5	4.5
		Nominal	kW	6.1	6.8	8.2
		Maximum	kW	7.27	8.58	9.18
Nominal input (Eurovent)	Cooling		kW	1.89	2.35	2.95
	Heating		kW	1.97	2.24	2.83
Nominal input	Heating		kW	1.60	1.84	2.36
EER (Eurovent)				2.75	2.55	2.41
COP (Eurovent)				2.87	2.83	2.74
COP				3.81	3.70	3.47
Casing	Colour			Ivory white		
	Material			Polyester painted steel plate		
Dimensions	Unit	Height	mm	805	805	805
		Width	mm	1,190		
		Depth	mm	360	360	360
	Unit with packing	Height	mm	915	915	915
		Width	mm	1,265		
		Depth	mm	442	442	442
Weight	Unit		kg	100	100	100
	Operating Weight		kg	104	104	104
	Gross weight		kg	108	108	108
Water Heat Exchanger	Type			Brazed plate		
	Filter	Type		Brass Y-strainer		
		Diameter perforations	mm	1	1	1
	Minimum water volume in the system		l	10	10	10
	Water flow rate	Min	l/min	12	12	12
	Nominal Water Flow	Cooling	l/min	14.9	17.2	20.4
		Heating	l/min	17.5	19.5	23.5
	Insulation material			Polyethylene foam		
	Model	Quantity		1	1	1
		Model		ACH30-48		
Air heat exchanger	Type			Tube type		
	Rows			2	2	2
	Stages			32	32	32
	Fin Pitch		mm	1.8	1.8	1.8
Pump	Type			Water cooled		
	Quantity			1	1	1
	Model			RS 25/7 3 PL 130 3		
	Nominal ESP unit	Cooling	kPa	49.4	45.1	38.3
		Heating	kPa	44.5	40.3	30.7
Hydraulic components	Antifreeze heater		W	75	75	75
	Expansion vessel	Volume	l	6	6	6
		Pre-pressure	bar	1	1	1
	Water filter		inch	1"		
	Safety valve		bar	3	3	3
Fan	Type			Propeller		
	Model	Quantity		1	1	1
		Motor Output	W	53	53	53
		Discharge direction		Horizontal		

1 Specifications

1-1 TECHNICAL SPECIFICATIONS				EWYQ005ACV3	EWYQ006ACV3	EWYQ007ACV3
Compressor	Type			Hermetically sealed swing compressor		
	Refrigerant oil type			FVC50K		
	Refrigerant oil charge		l	0.75	0.75	0.75
	Model	Quantity		1	1	1
		Model		2YC63BXD#C		
Sound level	Sound Power	Cooling	dBA	62	62	63
	Sound Pressure	Cooling	dBA	48	48	50
		Heating	dBA	48	48	49
Refrigerant circuit	Refrigerant type			R-410A		
	Refrigerant charge		kg	1.7	1.7	1.7
	No of circuits			1	1	1
	Refrigerant control			Inverter		
Piping connections	Water heat exchanger inlet / outlet			1'' MBSP		
	Water heat exchanger drain			hose nipple 1/2'' FBSP		
Notes				Nominal cooling capacity, cooling power input and EER at Eurovent conditions: ambient 35°C; evaporator 7°C (dT = 5°C)		
				Nominal heating capacity, heating power input and COP at Eurovent conditions: ambient 7°CDB/ 6°CWB; condenser 45°C (dT = 5°C)		
				Nominal heating capacity, heating power input and COP at non-Eurovent conditions: ambient 7°CDB/ 6°CWB; condenser 35°C (dT = 5°C)		
				The sound pressure level is measured via a microphone at a certain distance from the unit. It is a relative value, depending on the distance and acoustic environment.		

1-1 TECHNICAL SPECIFICATIONS				EWYQ009ACV3	EWYQ010ACV3	EWYQ011ACV3
Capacity (Eurovent)	Cooling	Nominal	kW	8.5	9.5	11.0
	Heating	Nominal	kW	10.0	11.5	13.0
Capacity control	Type			Inverter controlled		
Capacity	Cooling	Nominal	kW	12.1	13.5	15.5
	Heating	Nominal	kW	10.3	11.9	13.9
Nominal input (Eurovent)	Cooling		kW	2.74	3.19	3.82
	Heating		kW	2.91	3.38	3.86
Nominal input	Cooling		kW	2.76	3.32	4.05
	Heating		kW	2.34	2.72	3.12
EER (Eurovent)				3.11	2.98	2.88
EER				4.37	4.07	3.84
COP (Eurovent)				3.44	3.40	3.37
COP				4.40	4.35	4.45
ESEER				4.57	4.52	4.46
Casing	Colour			Ivory white		
	Material			Galvanized and painted steel sheet		
Dimensions	Unit	Height	mm	1,435		
		Width	mm	1,418		
		Depth	mm	382	382	382
	Unit with packing	Height	mm	1,574		
		Width	mm	1,500		
		Depth	mm	430	430	430
Weight	Unit		kg	180	180	180
	Gross weight		kg	200	200	200
Packing	Material			EPS		
				Wood		
				Carton		
				PP (Straps)		
	Weight		kg	20	20	20

1 Specifications

1-1 TECHNICAL SPECIFICATIONS				EWYQ009ACV3	EWYQ010ACV3	EWYQ011ACV3
Water Heat Exchanger	Type			Brazed plate		
	Quantity			1	1	1
	Water volume		l	1.01	1.01	1.01
	Water flow rate	Min	l/min	16	16	16
		Max	l/min	58	58	58
	Nominal Water Flow	Cooling	l/min	24.4	27.2	31.5
		Heating	l/min	28.7	33.0	37.3
	Insulation material			Foamed synthetic elastomer		
Air heat exchanger	Length		mm	857	857	857
	Type			Hi-XSS(8)		
	Rows			2	2	2
	Stages			60	60	60
	Fin Pitch		mm	1.4	1.4	1.4
	Passes	Quantity		5	5	5
	Face Area		m²	1.131		
	Fin	Type		WF fin		
		Treatment		Anti-corrosion treatment (PE)		
Pump	Type			Water cooled		
	Quantity			1	1	1
	Nominal ESP unit	Cooling	kPa	58.0	54.6	49.1
		Heating	kPa	52.8	47.1	40.9
	Power input		W	210	210	210
Hydraulic components	Expansion vessel	Volume	l	10	10	10
		Max. water pressure	bar	3	3	3
		Pre-pressure	bar	1.0	1.0	1.0
	Water filter	Diameter perforations	mm	1	1	1
		Material		brass		
Fan	Type			Propeller		
	Drive			Direct drive		
	Model	Motor		Brushless DC motor		
		Quantity		2	2	2
		Speed	steps	8	8	8
		Speed Cooling	rpm	780	780	780
		Speed Heating	rpm	760	760	760
		Motor Output	W	70	70	70
		Discharge direction		Horizontal		
Air flow rate	Cooling	Nom.	m³/min	96	100	97
	Heating	Nom.	m³/min	90	90	90
Compressor	Type			Hermetically sealed scroll compressor		
	Refrigerant oil type			FVC68D		
	Refrigerant oil charge		l	1.0	1.0	1.0
	Model	Quantity		1	1	1
		Model		JT100G-VD		
		Motor Output	W	2,200		
		Starting Method		Inverter driven		
		Crankcase Heater	W	33	33	33
Sound level	Sound Power	Cooling	dBA	64	64	64
		Heating	dBA	64	64	64
	Sound Pressure	Cooling	dBA	51	51	51
		Heating	dBA	51	51	51
Sound Level (Night quiet)	Sound Pressure	Cooling	dBA	45	45	45
		Heating	dBA	42	42	42
Operation Range (Cooling)	Water side	Min	°CDB	5	5	5
		Max	°CDB	22	22	22
	Air side	Min	°CDB	10	10	10
		Max	°CDB	46	46	46

1 Specifications

1-1 TECHNICAL SPECIFICATIONS				EWYQ009ACV3	EWYQ010ACV3	EWYQ011ACV3
Operation Range (Heating)	Water side	Min	°CDB	25	25	25
		Max	°CDB	50	50	50
	Air side	Min	°CDB	-15	-15	-15
		Max	°CDB	35	35	35
Refrigerant circuit	Refrigerant type			R-410A		
	Refrigerant charge		kg	2.95	2.95	2.95
	No of circuits			1	1	1
	Refrigerant control			Electronic expansion valve		
Water circuit	Piping connections		inch	G5/4 (FEMALE)		
	Piping		inch	5/4		
	Safety valve		bar	3	3	3
	Manometer			Yes		
	Drain valve / Fill valve			yes		
	Shut off valve			yes		
	Air purge valve			yes		
	Total water volume		l	4	4	4
	Minimum water volume in the system		l	20	20	20
Safety Devices				High pressure switch		
				Fan thermal protector		
				Fuse		
Notes				Nominal cooling capacity, cooling power input and EER at Eurovent conditions: ambient 35°C; evaporator 7°C (dT = 5°C)		
				Nominal cooling capacity, cooling power input and EER at non-Eurovent conditions: ambient 35°C; evaporator 18°C (dT = 5°C)		
				Nominal heating capacity, heating power input and COP at Eurovent conditions: ambient 7°CDB/ 6°CWB; condenser 45°C (dT = 5°C)		
				Nominal heating capacity, heating power input and COP at non-Eurovent conditions: ambient 7°CDB/ 6°CWB; condenser 35°C (dT = 5°C)		
				The sound pressure level is measured via a microphone at a certain distance from the unit. It is a relative value depending on the distance and acoustic environment. Refer to sound spectrum drawing for more information.		
				Water circuit total water volume: including piping + PHE/excluding expansion vessel		
				Water circuit minimum water volume system: excluding water volume in the unit. In most applications this minimum water volume will have a satisfying result. In critical processes or in rooms with a high heat load though, extra water volume might be required. Refer to operation range for more info.		
Defrost Method				Pressure equalising		
Defrost Control				Sensor for outdoor heat exchanger temperature		

1-2 ELECTRICAL SPECIFICATIONS				EWYQ005ACV3	EWYQ006ACV3	EWYQ007ACV3
Power Supply	Name			V3		
	Phase			1~		
	Frequency		Hz	50		
	Voltage		V	230		
	Voltage Tolerance	Minimum	%	-10%		
		Maximum	%	+10%		
Unit	Maximum Running Current		A	19		
	Minimum Ssc value			Equipment complying with EN/IEC 61000-3-12		
	Recommended fuses according to IEC standard 269-2			20		
Fan	Quantity			1		
	Phase			1~		
	Voltage		V	230		
Pump	Phase			1~		
	Power input		kW	0.13		
	Voltage		V	230		
	Maximum Running Current		A	0.58		
	Speed	Minimum	rpm	1,050		
		Nominal	rpm	2,250		
		Maximum	rpm	2,450		

1 Specifications

1-2 ELECTRICAL SPECIFICATIONS				EWYQ005ACV3	EWYQ006ACV3	EWYQ007ACV3
Evaporator Heater Tape	Supply Voltage		V	230		
	Capacity		W	75		
	Voltage Tolerance	Minimum	%	-10%		
		Maximum	%	+10%		
	Recommended fuses			25A		
Notes				Fuse value valid for complete unit		
				EN/IEC 61000-3-12: European/international technical standard setting the limits for harmonic currents produced by equipment connected to public low voltage systems with input current > 16A and <= 75A per phase		

1-2 ELECTRICAL SPECIFICATIONS				EWYQ009ACV3	EWYQ010ACV3	EWYQ011ACV3
Power Supply	Name			V3		
	Phase			1~		
	Frequency		Hz	50		
	Voltage		V	230		
	Voltage Tolerance	Minimum	%	-10%		
		Maximum	%	+10%		
Unit	Minimum Ssc value			Equipment complying with EN/IEC 61000-3-12		
	Recomended fuses		A	32		
Wiring connections				cf. installation manual		
Notes				EN/IEC 61000-3-12: European/international technical standard setting the limits for voltage changes, voltage fluctuations and flicker in public low-voltage supply systems for equipment with rated currents <= 75A		

2 Options

Capacity: 5 - 7.1 kW

Modelnumber

EWAQ005A*V3P EWYQ005A*V3P
EWAQ006A*V3P EWYQ006A*V3P
EWAQ007A*V3P EWYQ007A*V3P

Option number	Option description	(On)	Unit size						Availability
			EWAQ005A*V3P	EWAQ006A*V3P	EWAQ007A*V3P	EWYQ005A*V3P	EWYQ006A*V3P	EWYQ007A*V3P	
	Standard unit								
	Available options								
OP10	Evaporator heatertape	-H-	○	○	○	○	○	○	Factory mounted

3TW57539-5

Notes

○ Available

EWA(Y)Q009-013AC

Optional equipment for EWA/YQ*A*V3/W1P(on)

Modelnumber

EWAQ009A*V3P(on) EWYQ009A*V3P(on)
EWAQ010A*V3P(on) EWYQ010A*V3P(on)
EWAQ011A*V3P(on) EWYQ011A*V3P(on)

(on) = option number

EWAQ009A*W1P(on) EWYQ009A*W1P(on)
EWAQ011A*W1P(on) EWYQ011A*W1P(on)
EWAQ013A*W1P(on) EWYQ013A*W1P(on)

Option number	Option description	(on)	Unit size						Availability
			EWAQ009A*V3P(on)	EWAQ010A*V3P(on)	EWAQ011A*V3P(on)	EWYQ009A*V3P(on)	EWYQ010A*V3P(on)	EWYQ011A*V3P(on)	
OP10	Standard unit available options evaporator + waterpiping heatertape		○	○	○	○	○	○	factory mounted
EKRP1HB	Digital I/O PCB (1)	-H-	○	○	○	○	○	○	option kit
			EWAQ009A*W1P(on)	EWAQ011A*W1P(on)	EWAQ013A*W1P(on)	EWYQ009A*W1P(on)	EWYQ011A*W1P(on)	EWYQ013A*W1P(on)	
OP10	Standard unit available options evaporator heatertape		○	○	○	○	○	○	factory mounted
EKRP1HB	Digital I/O PCB (1)	-H-	○	○	○	○	○	○	option kit

3TW58259-1A

NOTES

1. Input/Output PCB that provides two additional output connections (remote alarm and remote ON/OFF signalisation)

3 Capacity tables

3 - 1 Cooling capacity tables

EWAQ005-007ACV3
EWYQ005-007ACV3

COOLING

Model	Tamb (°C)	20		25		30		35		40		43	
	LWE (°C)	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
005	7	6.15	1.37	5.85	1.53	5.53	1.70	5.20	1.89	4.52	2.02	3.93	2.22
	11	6.97	1.38	6.63	1.55	6.28	1.74	5.92	1.94	4.99	1.99	4.26	2.13
	13	7.40	1.38	7.04	1.56	6.68	1.75	6.30	1.96	5.23	1.97	4.43	2.08
	16	8.06	1.38	7.69	1.57	7.30	1.77	6.90	1.99	5.60	1.93	4.67	2.00
	20	9.00	1.38	8.60	1.58	8.18	1.80	7.75	2.02	6.10	1.88	4.97	1.87
006	7	7.06	1.74	6.73	1.93	6.37	2.14	6.00	2.35	4.93	2.30	4.11	2.36
	11	7.96	1.78	7.59	1.99	7.20	2.20	6.78	2.43	5.43	2.29	4.45	2.29
	13	8.44	1.80	8.05	2.01	7.64	2.24	7.20	2.47	5.69	2.28	4.62	2.24
	16	9.18	1.82	8.76	2.05	8.32	2.28	7.86	2.53	6.09	2.26	4.88	2.17
	20	10.2	1.85	9.8	2.09	9.29	2.34	8.79	2.60	6.64	2.22	5.21	2.05
007	7	8.31	2.23	7.94	2.46	7.54	2.70	7.10	2.95	5.49	2.65	4.36	2.55
	11	9.31	2.31	8.89	2.55	8.44	2.81	7.49	2.94	5.79	2.59	4.60	2.45
	13	9.82	2.35	9.39	2.60	8.91	2.86	7.78	2.91	5.99	2.53	4.75	2.38
	16	10.6	2.41	10.15	2.67	9.65	2.94	8.23	2.85	6.28	2.45	4.95	2.26
	20	11.7	2.49	11.2	2.76	10.67	3.05	8.82	2.76	6.65	2.31	5.21	2.09

3TW57532-1

SYMBOLS

CC : Cooling capacity at maximum operating frequency, measured acc. Eurovent 6/C/003-2006 (kW)

HC : Heating capacity at maximum operating frequency, measured acc. Eurovent 6/C/003-2006 (kW)

PI : Power input (kW)

LWE : Leaving evaporator water temperature (°C)

LWC : Leaving Water Condensor temperature (°C)

Tamb : Ambient temperature (°C) RH=85%

Note:
The heating capacity and power input in the table has to be multiplied by the correctionfactor CF as listed in the table below to obtain the integrated heating capacity and power input.
The integrated heating capacity and power input, is the average heating capacity and power input during 1 cycle. (from end of defrost till end of the next defrost).

Tamb	-15	-10	-7	-2	2	7
CF for HC	0.89	0,89	0,88	0,87	0,86	1,00
CF for PI	0.95	0,95	0,94	0,93	0,92	1,00

Conditions

1 **Cooling capacity**
Capacity is according to Eurovent rating standard 6/C/003-2006 and valid for chilled water range Dt = 3~8°C

2 **Heating capacity**
Capacity is according to Eurovent rating standard 6/C/003-2006 and valid for chilled water range Dt = 3~8°C

3 **Power input**
Power input is total input according to Eurovent rating standard 6/C/003-2006

3 Capacity tables

3 - 1 Cooling capacity tables

EWAQ009-011ACV3
EWYQ009-011ACV3

Maximum Cooling Capacity

	Tamb	20		25		30		35		40		45	
	LWE	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
EWA/YQ009 (V3)	7	10,31	1,86	9,70	2,15	9,10	2,45	8,50	2,74	7,58	3,00	6,67	3,26
	10	11,43	1,84	10,72	2,14	10,02	2,43	9,31	2,73	8,50	3,04	7,68	3,34
	13	12,59	1,81	11,80	2,12	11,01	2,42	10,22	2,73	9,43	3,07	8,65	3,41
	15	13,41	1,77	12,60	2,09	11,78	2,42	10,96	2,74	10,09	3,09	9,23	3,43
	18	14,65	1,71	13,79	2,06	12,93	2,41	12,06	2,76	11,08	3,11	10,10	3,46
	22	16,29	1,62	15,38	2,01	14,46	2,40	13,54	2,79	12,40	3,15	11,26	3,51
EWA/YQ010 (V3)	7	11,64	2,21	10,92	2,54	10,21	2,86	9,50	3,19	8,63	3,50	7,75	3,80
	10	12,92	2,22	12,10	2,55	11,28	2,88	10,46	3,21	9,69	3,55	8,91	3,89
	13	14,24	2,22	13,33	2,56	12,41	2,91	11,50	3,25	10,74	3,61	9,99	3,97
	15	15,15	2,23	14,20	2,58	13,26	2,93	12,31	3,28	11,45	3,64	10,59	4,01
	18	16,53	2,23	15,52	2,59	14,52	2,96	13,52	3,32	12,51	3,69	11,49	4,06
	22	18,36	2,24	17,28	2,62	16,21	3,00	15,13	3,38	13,91	3,76	12,70	4,14
EWA/YQ011 (V3)	7	13,45	2,72	12,63	3,09	11,82	3,45	11,00	3,82	9,93	4,18	8,85	4,54
	10	14,97	2,75	14,07	3,13	13,17	3,50	12,27	3,88	11,24	4,26	10,22	4,65
	13	16,46	2,77	15,48	3,16	14,50	3,55	13,52	3,94	12,48	4,34	11,44	4,75
	15	17,41	2,79	16,38	3,19	15,36	3,58	14,33	3,98	13,20	4,39	12,07	4,80
	18	18,85	2,82	17,74	3,23	16,64	3,64	15,54	4,05	14,28	4,47	13,02	4,88
	22	20,76	2,85	19,55	3,28	18,35	3,71	17,15	4,13	15,71	4,56	14,28	4,99

3TW58252-1B

SYMBOLS

CC : Cooling capacity at maximum operating frequency, measured acc. Eurovent 6/C/003-2006 (kW)
HC : Heating capacity at maximum operating frequency, measured acc. Eurovent 6/C/003-2006 (kW)
PI : Power input (kW), measured acc. Eurovent 6/C/003-2006 (kW)
LWE : Leaving Water Evaporator temperature (°C)
LWC : Leaving Water Condensor temperature (°C)
Tamb : Ambient temperature (°C) RH=85%

NOTES

1 **Cooling capacity**
Capacity is according to Eurovent rating standard 6/C/003-2006 and valid for chilled water range Dt = 3~8°C
Capacity values may not be extrapolated below 7°C leaving water temperature

2 **Heating capacity**
Capacity is according to Eurovent rating standard 6/C/003-2006 and valid for chilled water range Dt = 3~8°C

3 **Power input**
Power input is total of indoor and outdoor unit, except the circulation pump; according to Eurovent rating standard 6/C/003-2006.
Pump power input to be added = 90 W (according EN14511).

3 Capacity tables

3 - 2 Heating capacity tables

EWYQ005-007ACV3

HEATING

Model	LWC	30		35		40		45		50	
	Tamb	HC	PI	HC	PI	HC	PI	HC	PI	HC	PI
005	-15	3.74	1.54	3.67	1.66	3.59	1.79	3.51	1.93	3.42	2.09
	-10	4.40	1.63	4.30	1.76	4.19	1.91	4.07	2.07	3.94	2.25
	-7	4.86	1.67	4.73	1.82	4.60	1.98	4.45	2.15	4.31	2.34
	-2	5.69	1.74	5.54	1.91	5.37	2.09	5.20	2.28	5.02	2.48
	2	6.44	1.79	6.26	1.97	6.07	2.16	5.88	2.37	5.67	2.59
	7	7.48	1.85	7.27	2.04	7.05	2.25	6.83	2.47	6.60	2.71
006	-15	4.63	1.94	4.60	2.08	4.56	2.23	4.50	2.40	4.42	2.58
	-10	5.37	2.06	5.30	2.22	5.22	2.39	5.11	2.59	4.98	2.80
	-7	5.88	2.13	5.78	2.30	5.67	2.49	5.54	2.70	5.38	2.92
	-2	6.81	2.23	6.68	2.43	6.52	2.64	6.35	2.87	6.15	3.12
	2	7.64	2.31	7.48	2.53	7.29	2.76	7.09	3.01	6.87	3.27
	7	8.78	2.41	8.58	2.65	8.36	2.90	8.13	3.17	7.87	3.45
007	-15	5.02	2.15	5.02	2.30	4.99	2.46	4.94	2.65	4.87	2.85
	-10	5.82	2.29	5.76	2.46	5.68	2.65	5.58	2.86	5.46	3.10
	-7	6.35	2.37	6.26	2.56	6.16	2.76	6.03	2.99	5.88	3.24
	-2	7.33	2.50	7.20	2.71	7.05	2.95	6.88	3.20	6.69	3.47
	2	8.19	2.60	8.03	2.83	7.86	3.09	7.65	3.36	7.43	3.65
	7	9.37	2.72	9.18	2.98	8.97	3.25	8.73	3.55	8.47	3.86

3TW57532-1

SYMBOLS

CC : Cooling capacity at maximum operating frequency, measured acc. Eurovent 6/C/003-2006 (kW)

HC : Heating capacity at maximum operating frequency, measured acc. Eurovent 6/C/003-2006 (kW)

PI : Power input (kW)

LWE : Leaving evaporator water temperature (°C)

LWC : Leaving Water Condensor temperature (°C)

Tamb : Ambient temperature (°C) RH=85%

Note:
The heating capacity and power input in the table has to be multiplied by the correctionfactor CF as listed in the table below to obtain the integrated heating capacity and power input.
The integrated heating capacity and power input, is the average heating capacity and power input during 1 cycle. (from end of defrost till end of the next defrost).

Tamb	-15	-10	-7	-2	2	7
CF for HC	0.89	0,89	0,88	0,87	0,86	1,00
CF for PI	0.95	0,95	0,94	0,93	0,92	1,00

Conditions

1 **Cooling capacity**
Capacity is according to Eurovent rating standard 6/C/003-2006 and valid for chilled water range Dt = 3~8°C

2 **Heating capacity**
Capacity is according to Eurovent rating standard 6/C/003-2006 and valid for chilled water range Dt = 3~8°C

3 **Power input**
Power input is total input according to Eurovent rating standard 6/C/003-2006

3 Capacity tables

3 - 2 Heating capacity tables

EWYQ009-011ACV3

Maximum Heating Capacity (Peak values)

	LWC	30		35		40		45		50	
	Tamb	HC	PI	HC	PI	HC	PI	HC	PI	HC	PI
EWYQ009 (V3)	-15	6,10	2,10	5,73	2,30	5,60	2,53	5,45	2,80		
	-7	7,48	2,13	7,05	2,34	6,91	2,59	6,73	2,87		
	-2	8,54	2,14	8,07	2,35	7,92	2,60	7,74	2,89	7,46	3,22
	2	9,50	2,13	8,99	2,35	8,86	2,61	8,67	2,91	8,38	3,24
	7	10,86	2,11	10,31	2,34	10,18	2,61	10,00	2,91	9,70	3,24
	12	11,78	2,05	11,21	2,28	11,11	2,55	10,94	2,85	10,65	3,19
	15	12,74	2,03	12,15	2,26	12,05	2,53	11,90	2,84	11,60	3,18
	20	14,48	1,97	13,84	2,21	13,78	2,49	13,64	2,80	12,95	3,15
EWYQ010 (V3)	-15	7,01	2,44	6,59	2,67	6,45	2,94	6,27	3,26		
	-7	8,61	2,48	8,11	2,72	7,95	3,01	7,74	3,34		
	-2	9,82	2,49	9,28	2,74	9,11	3,03	8,90	3,37	8,58	3,75
	2	10,92	2,48	10,34	2,74	10,18	3,04	9,97	3,38	9,64	3,77
	7	12,49	2,46	11,85	2,72	11,71	3,03	11,50	3,38	11,15	3,78
	12	13,54	2,39	12,89	2,66	12,77	2,97	12,59	3,32	12,24	3,71
	15	14,65	2,36	13,97	2,63	13,86	2,94	13,68	3,30	13,34	3,70
	20	16,65	2,29	15,92	2,57	15,84	2,90	15,69	3,26	14,89	3,67
EWYQ011 (V3)	-15	8,23	2,76	7,94	3,02	7,66	3,31	7,54	3,65		
	-7	10,00	2,83	9,60	3,10	9,21	3,40	9,01	3,75		
	-2	11,38	2,86	10,91	3,13	10,46	3,44	10,21	3,80	10,05	4,20
	2	12,65	2,87	12,14	3,15	11,63	3,47	11,35	3,83	11,17	4,24
	7	14,47	2,88	13,89	3,12	13,32	3,49	13,00	3,86	12,79	4,27
	12	15,32	2,78	14,72	3,06	14,13	3,39	13,80	3,75	13,59	4,16
	15	16,61	2,77	15,97	3,06	15,33	3,38	14,99	3,75	14,77	4,17
	20	18,94	2,74	18,24	3,03	17,54	3,37	17,17	3,74	16,45	4,16

Maximum Heating Capacity (integrated values)

	LWC	30		35		40		45		50	
	Tamb	HC	PI	HC	PI	HC	PI	HC	PI	HC	PI
EWYQ009 (V3)	-15	5,16	2,05	4,85	2,25	4,75	2,48	4,61	2,74		
	-7	6,34	2,09	5,97	2,29	5,85	2,53	5,70	2,81		
	-2	7,09	2,05	6,69	2,26	6,58	2,50	6,42	2,78	6,19	3,09
	2	7,88	2,05	7,46	2,26	7,35	2,51	7,20	2,79	6,95	3,11
	7	10,86	2,11	10,31	2,34	10,18	2,61	10,00	2,91	9,70	3,24
	12	11,78	2,05	11,21	2,28	11,11	2,55	10,94	2,85	10,65	3,19
	15	12,74	2,03	12,15	2,26	12,05	2,53	11,90	2,84	11,60	3,18
	20	14,48	1,97	13,84	2,21	13,78	2,49	13,64	2,80	12,95	3,15
EWYQ010 (V3)	-15	5,94	2,39	5,58	2,62	5,46	2,88	5,30	3,19		
	-7	7,29	2,43	6,87	2,67	6,73	2,95	6,56	3,27		
	-2	8,15	2,39	7,70	2,63	7,56	2,91	7,39	3,23	7,12	3,60
	2	9,07	2,38	8,58	2,63	8,45	2,92	8,28	3,25	8,00	3,62
	7	12,49	2,46	11,85	2,72	11,71	3,03	11,50	3,38	11,15	3,78
	12	13,54	2,39	12,89	2,66	12,77	2,97	12,59	3,32	12,24	3,71
	15	14,65	2,36	13,97	2,63	13,86	2,94	13,68	3,30	13,34	3,70
	20	16,65	2,29	15,92	2,57	15,84	2,90	15,69	3,26	14,89	3,67
EWYQ011 (V3)	-15	7,00	2,68	6,75	2,92	6,52	3,20	6,42	3,53		
	-7	8,50	2,74	8,16	3,00	7,83	3,29	7,66	3,63		
	-2	9,04	2,59	8,67	2,83	8,31	3,12	8,12	3,44	7,99	3,80
	2	10,06	2,60	9,65	2,85	9,24	3,14	9,02	3,47	8,88	3,84
	7	14,47	2,88	13,89	3,12	13,32	3,49	13,00	3,86	12,79	4,27
	12	15,32	2,78	14,72	3,06	14,13	3,39	13,80	3,75	13,59	4,16
	15	16,61	2,77	15,97	3,06	15,33	3,38	14,99	3,75	14,77	4,17
	20	18,94	2,74	18,24	3,03	17,54	3,37	17,17	3,74	16,45	4,16

3TW58252-1B

SYMBOLS

CC : Cooling capacity at maximum operating frequency, measured acc. Eurovent 6/C/003-2006 (kW)

HC : Heating capacity at maximum operating frequency, measured acc. Eurovent 6/C/003-2006 (kW)

PI : Power input (kW), measured acc. Eurovent 6/C/003-2006 (kW)

LWE : Leaving Water Evaporator temperature (°C)

LWC : Leaving Water Condensor temperature (°C)

Tamb : Ambient temperature (°C) RH=85%

NOTES

1 **Cooling capacity**
Capacity is according to Eurovent rating standard 6/C/003-2006 and valid for chilled water range Dt = 3~8°C
Capacity values may not be extrapolated below 7°C leaving water temperature

2 **Heating capacity**
Capacity is according to Eurovent rating standard 6/C/003-2006 and valid for chilled water range Dt = 3~8°C

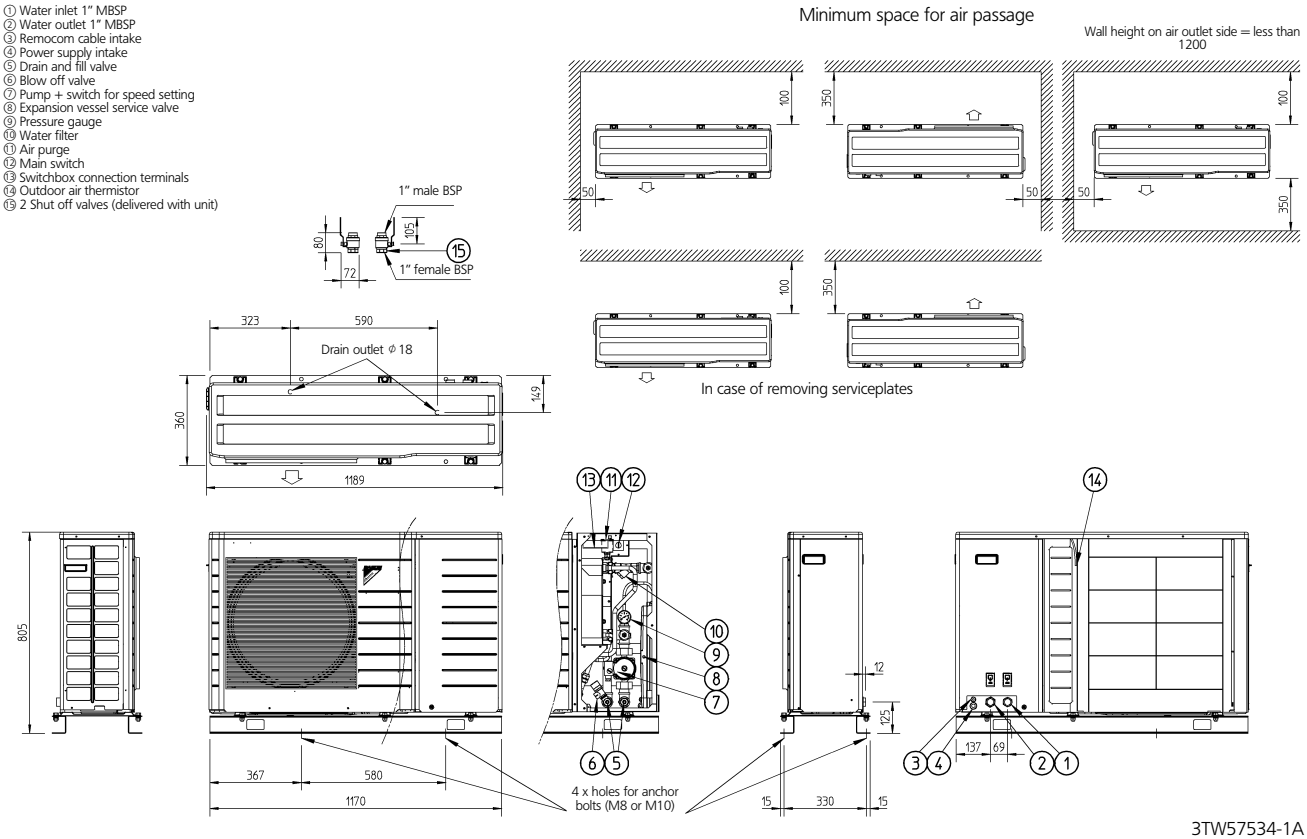
3 **Power input**
Power input is total of indoor and outdoor unit, except the circulation pump; according to Eurovent rating standard 6/C/003-2006.
Pump power input to be added = 90 W (according EN14511).

4 Dimensional drawing & centre of gravity

4 - 1 Dimensional drawing

EWA(Y)Q005-007ACV3

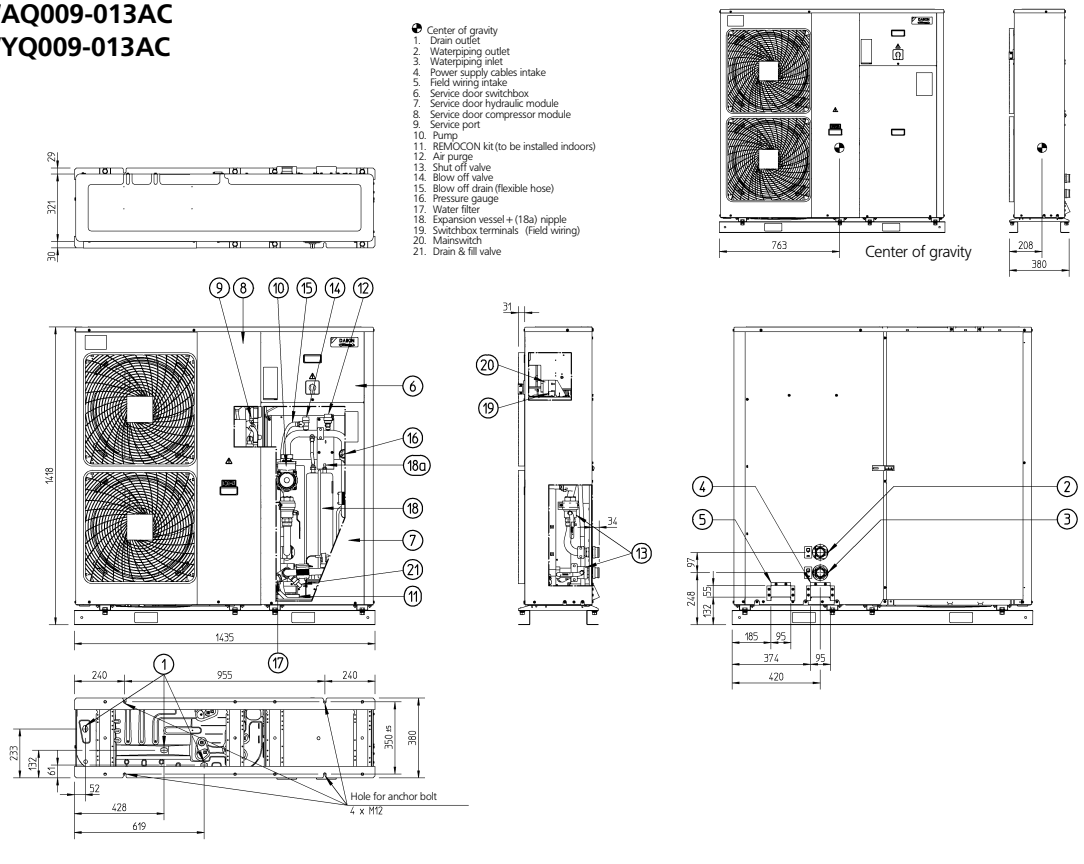
① Water inlet 1" MBSP
② Water outlet 1" MBSP
③ Remocom cable intake
④ Power supply intake
⑤ Drain and fill valve
⑥ Blow off valve
⑦ Pump + switch for speed setting
⑧ Expansion vessel service valve
⑨ Pressure gauge
⑩ Water filter
⑪ Air purge
⑫ Main switch
⑬ Switchbox connection terminals
⑭ Outdoor air thermistor
⑮ 2 Shut off valves (delivered with unit)



3TW57534-1A

EWAQ009-013AC
EWYQ009-013AC

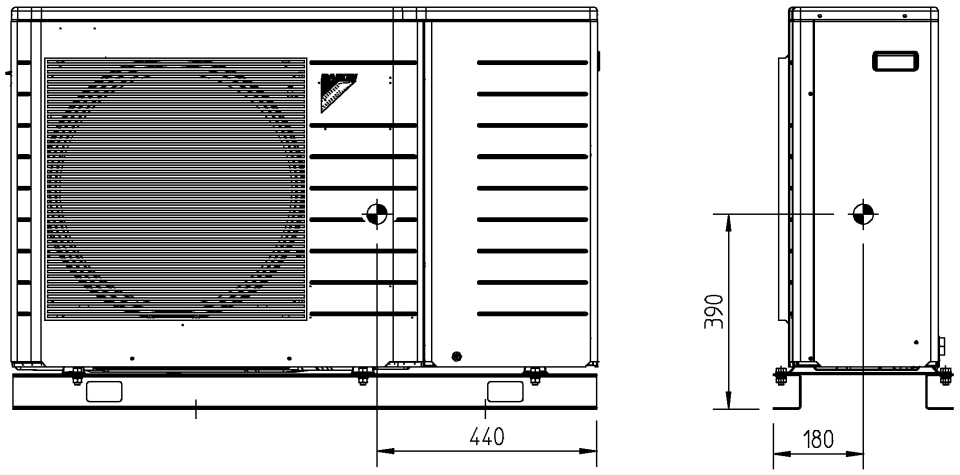
Center of gravity
1. Drain outlet
2. Waterpiping outlet
3. Waterpiping inlet
4. Power supply cables intake
5. Field wiring intake
6. Service door switchbox
7. Service door hydraulic module
8. Service door compressor module
9. Service port
10. Pump
11. REMOCON kit (to be installed indoors)
12. Air purge
13. Shut off valve
14. Blow off valve
15. Blow off drain (flexible hose)
16. Pressure gauge
17. Water filter
18. Expansion vessel + (18a) nipple
19. Switchbox terminals (Field wiring)
20. Mainswitch
21. Drain & fill valve



3TW58254-1

4 Dimensional drawing & centre of gravity

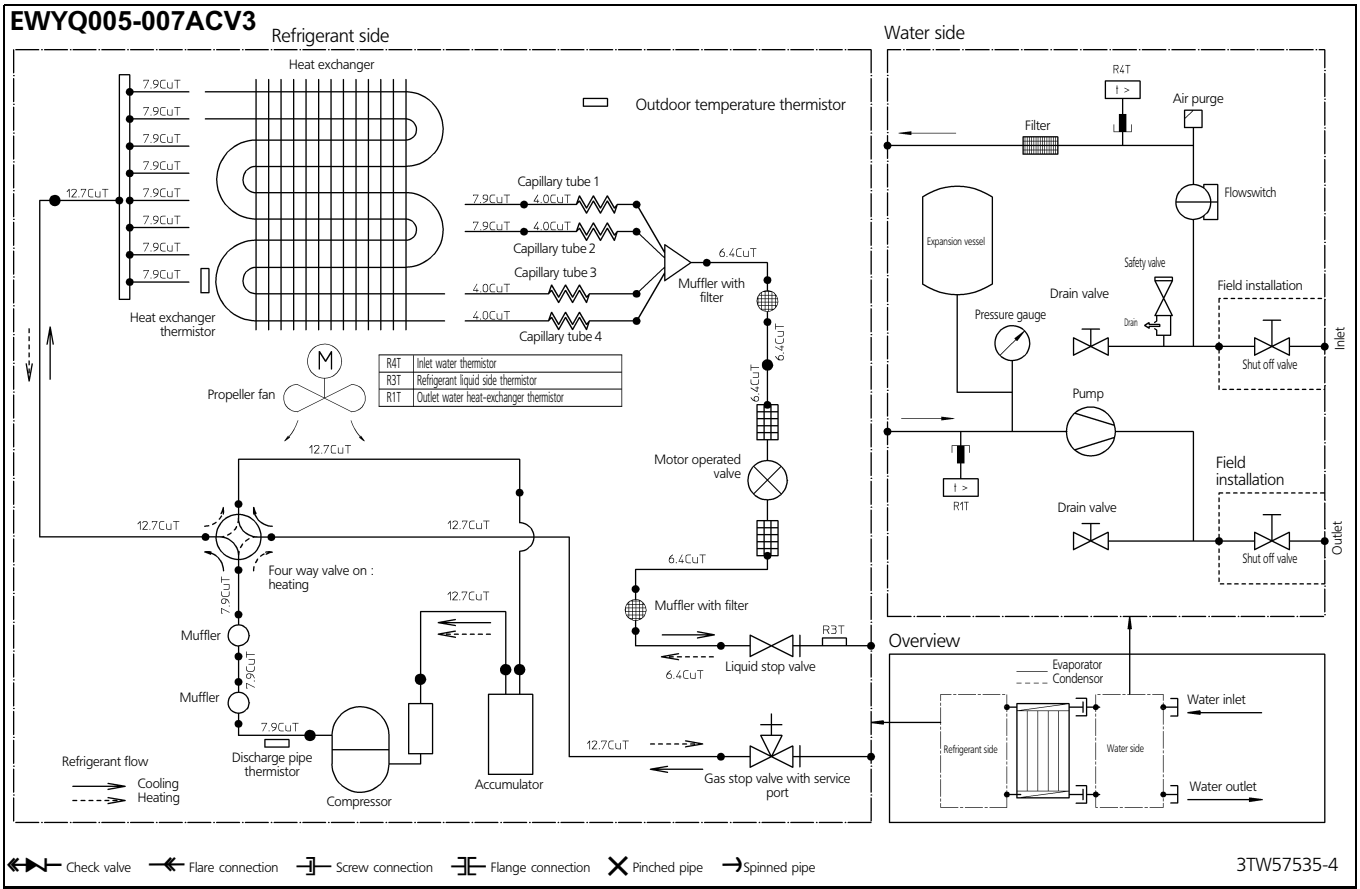
4 - 2 Centre of gravity



4TW56749-1

5 Piping diagram

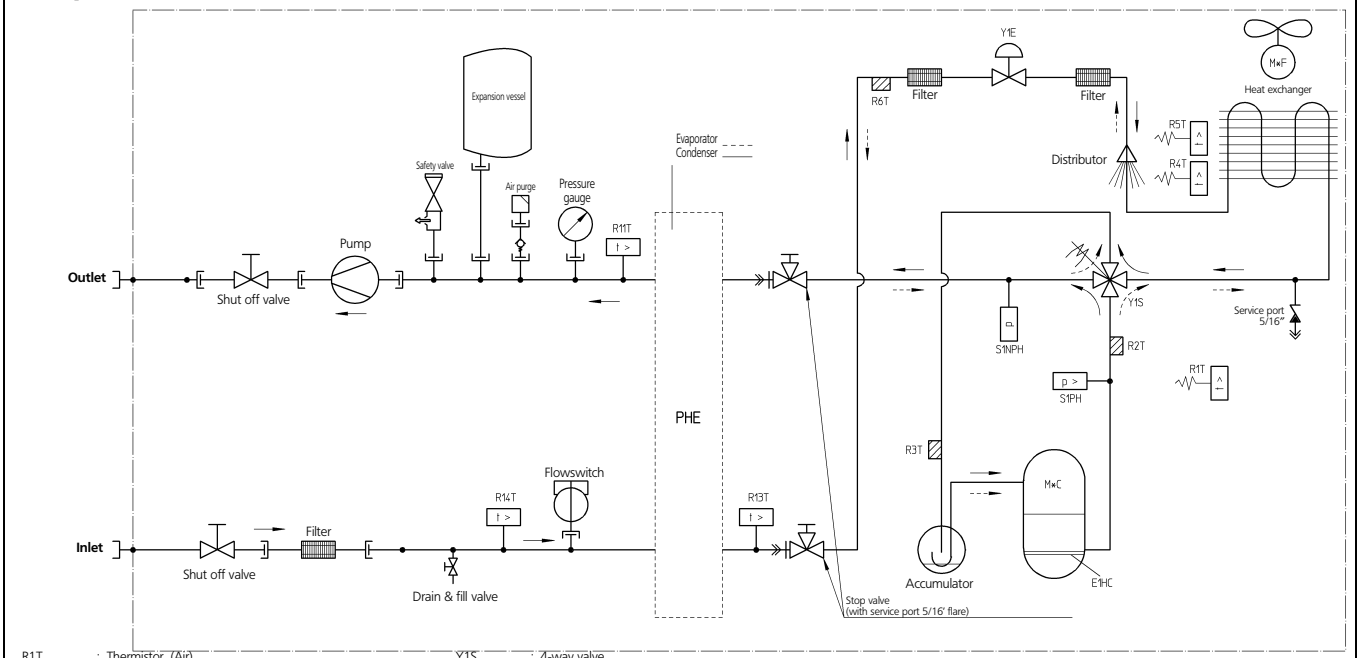
EWYQ005-007ACV3



Check valve — Flare connection — Screw connection — Flange connection — Pinched pipe — Spinned pipe

3TW57535-4

EWAQ009-013ACV3
EWYQ009-013ACV3



R1T : Thermistor (Air)
R2T : Thermistor (discharge)
R3T : Thermistor (Suction)
R4T : Thermistor (Liquid 1)
R5T : Thermistor (middle)
R6T : Thermistor (Liquid 2)
S1NPH : Pressure sensor
Y1E : Electronic expansion valve
E1HC : Crankcase heater
Y1S : 4-way valve
Y3S : Injection valve
S1PH : High pressure switch
M*F : Fan motor
M*C : Compressor
R11T : Outlet water heat-exchanger thermistor
R13T : Refrigerant liquid side thermistor
R14T : Inlet water thermistor

Heating
Cooling

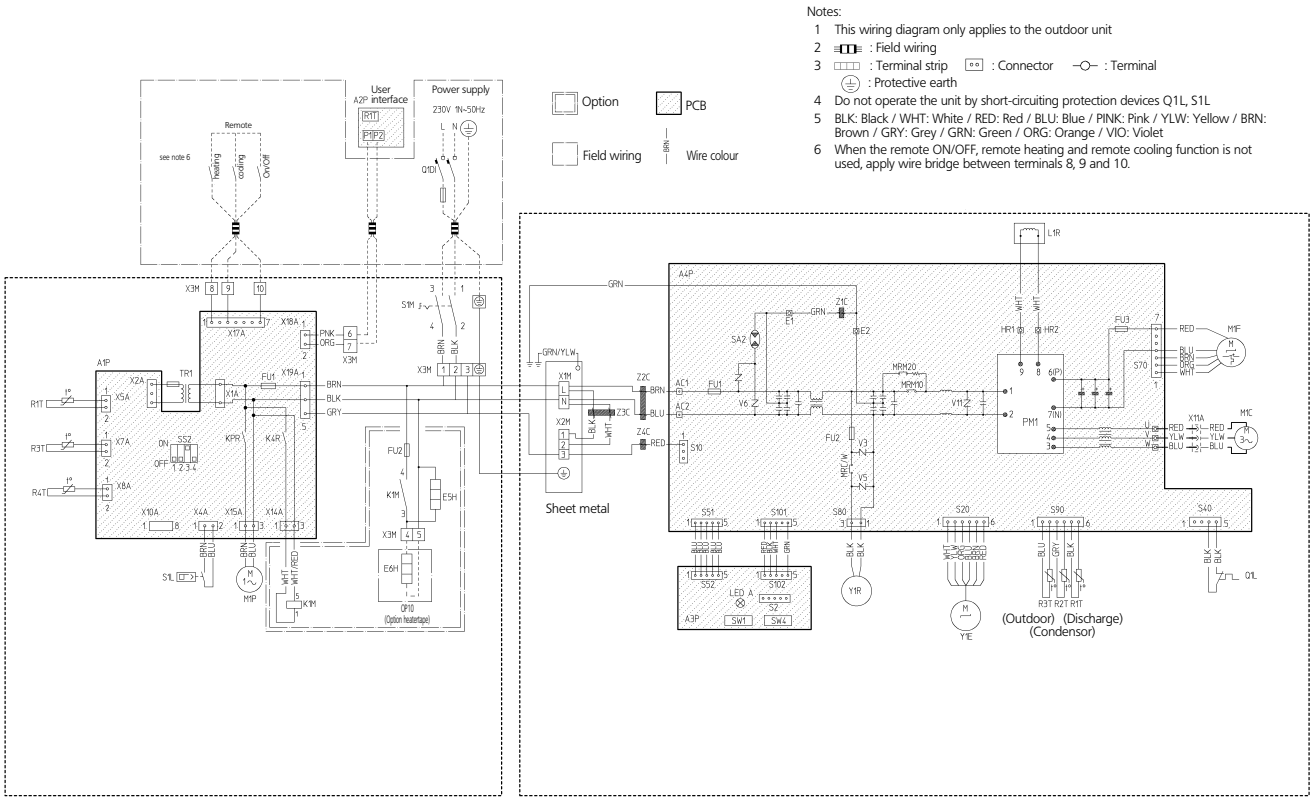
Check valve — Flare connection — Screw connection — Flange connection — Pinched pipe — Spinned pipe

3TW58255-1

6 Wiring diagram

6 - 1 Wiring diagram

EWAQ005-007ACV3
EWYQ005-007ACV3



Q1DI	Earth leakage protector
TR1	Transformer 24V for PCB
R4T	Inlet water thermistor
R3T	Refrigerant liquid side thermistor
R1T	Outlet water heat exchanger
S1L	Flowswitch
M1P	Pump
A2P	Remocom PCB (indoor)
A1P	Main PCB
S1M	Mainswitch
FU1	Fuse 3.15A T 250V
FU2	Fuse 5A 250V
X1A,X2A	Connector
X4A,X5A	Connector
X7A,X8A	Connector
X10A,X15A	Connector
X17A,X18A	Connector
X19A,X20A	Connector
E5H	Heatertape
E6H	Heatertape (Field supply)
SS2	Dipswitch
K1M	Relay
X3M	Terminal strip

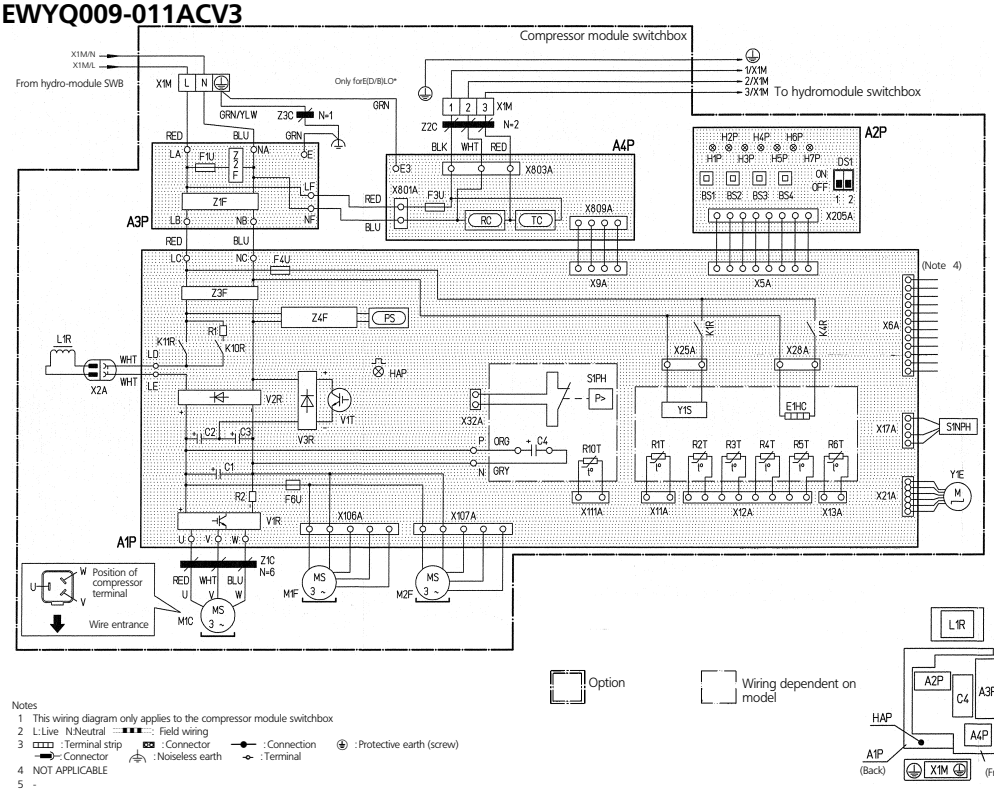
Z1C~Z4C	Ferrite core
X1M,X2M	Terminal strip
Y1E	Electronic expansion valve coil
V2,V3,V5,V6,V11	Varistor
SA2	Surge arrester
FU1	Fuse 30A 250V
FU2	Fuse 3.15A 250V
FU3	Fuse 3.15A 250V
AC1,AC2	
U,V,W,X11A	Connector
E1,E2	
HR1,HR2	Connector
MRM10,MRM20	Magnetic relay
MRC/W	Magnetic relay
R1T~R3T	Thermistor
S2~S102	Connector
LED A	Pilot lamp
L	Live
N	Neutral
SW1	Forced operation on/off SW (SW1)
SW4	Local setting SW (SW4)
M1C	Compressor motors
M1F	Fan motor
L1R	Reactor
Q1L	Overload protector
PM1	Power module
PCB1,2	Printed circuit board
Y1R	Reversing solenoid valve coil
Sheet metal	Terminal strip fixed plate

3TW57536-1A

6 Wiring diagram

6 - 1 Wiring diagram

EWAQ009-011ACV3
EWYQ009-011ACV3

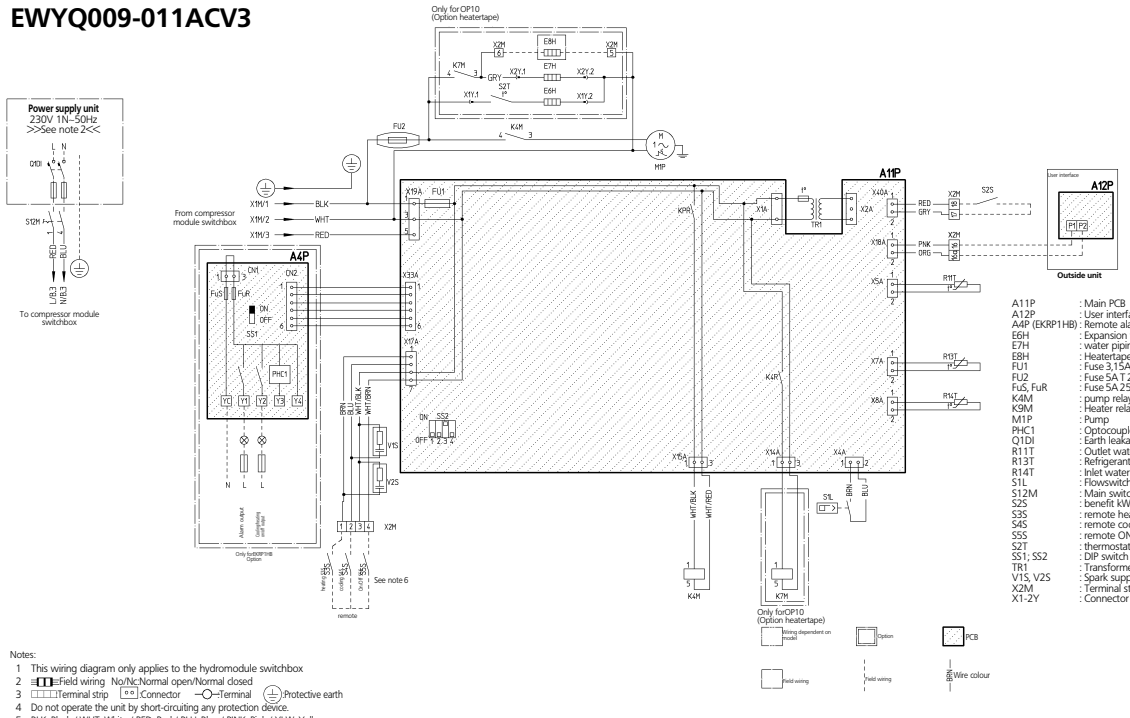


A1P	Printed circuit board (Main)
A2P	Printed circuit board (INV)
A3P	Printed circuit board (Noise filter)
A4P	Printed circuit board
BS1–BS4	Push button switch
C1–C4	Capacitor
DS1	DIP switch
E1HC	Crankcase heater
F1U, F3U, F4U	Fuse (T 6.3A/250V)
F6U	Fuse (T 5.0A/250V)
H1P–7P (A2P)	Light Emit. Diode (Serv. Monitor-Orange)
	Prepare, Test ---------- Flickering
	Malfunction Detection -- Light up
HAP (A1P)	Light emitting diode (service monitor green)
K1R	Magnetic relay (Y1S)
K4R	Magnetic relay (E1HC)
K10R	Magnetic relay
K11R	Magnetic relay
L1R	Reactor
M1C	Motor (Compressor)
M1F	Motor (Fan) (upper)
M2F	Motor (Fan) (lower)
PS	Switching power supply
Q1DI	Field earth leakage breaker (300mA)
R1	Resistor
R2	Resistor
R1T	Thermistor (Air)
R2T	Thermistor (Discharge)
R3T	Thermistor (Suction)
R4T	Thermistor (Heat exchanger)
R5T	Thermistor (Heat exchanger middle)
R6T	Thermistor (Liquid)
RC	Signal receiver circuit
R10T	Thermistor (Fin)
S1NPH	Pressure sensor
S1PH	Pressure switch (High)
TC	Signal transmission circuit
V1R	Power module
V2R, V3R	Diode module
V1T	IGBT
X1M	Terminal strip (Power supply)
Y1E	Electronic expansion valve
Y1S	Solenoid valve (4 way valve)
Z1C–Z3C	Noise filter (ferrity core)
Z1F–Z4F	Noise filter

Notes
1 This wiring diagram only applies to the compressor module switchbox
2 L: Live N: Neutral ⋯■■■⋯: Field wiring
3 □□□: Terminal strip ⊠: Connector —●—: Connection ⏚: Protective earth (screw)
—■—: Connector ⏚: Noiseless earth —○—: Terminal
4 NOT APPLICABLE
5 -
6 Do not operate the unit by short-circuiting protection device S1PH
7 Colors: BLK: black, RED: red, BLU: blue, WHT: white, YLW: yellow, ORG: orange, BRN: brown, GRN: green
8 Confirm the method of setting the selector switches (DS1) by service manual. Factory setting of all switches: "OFF".

2TW58256-1

EWAQ009-011ACV3
EWYQ009-011ACV3



A11P	: Main PCB
A12P	: User interface PCB
A4P (EKRP1HB)	: Remote alarm PCB
E6H	: Expansion vessel heater
E7H	: water piping heater
E8H	: Heatertape (Field supply Max. 200W)
FU1	: Fuse 3,15A T 250V for PCB
FU2	: Fuse 5A T 250V
FuS, FuR	: Fuse 5A 250V Remote alarm PCB
K4M	: pump relay
K9M	: Heater relay
M1P	: Pump
PHC1	: Optocoupler input circuit
Q1DI	: Earth leakage protector
R11T	: Outlet water heat-exchanger thermistor
R13T	: Refrigerant liquid side thermistor
R14T	: Inlet water thermistor
S1L	: Flowswitch
S12M	: Main switch
S2S	: benefit kWh rate signal
S3S	: remote heating signal
S4S	: remote cooling signal
S5S	: remote ON/OFF signal
S2T	: thermostat expansion vessel heater
SS1, SS2	: DIP switch
TR1	: Transformer 24V for PCB
V1S, V2S	: Spark suppression 1, 2
X2M	: Terminal strips
X1-2Y	: Connector

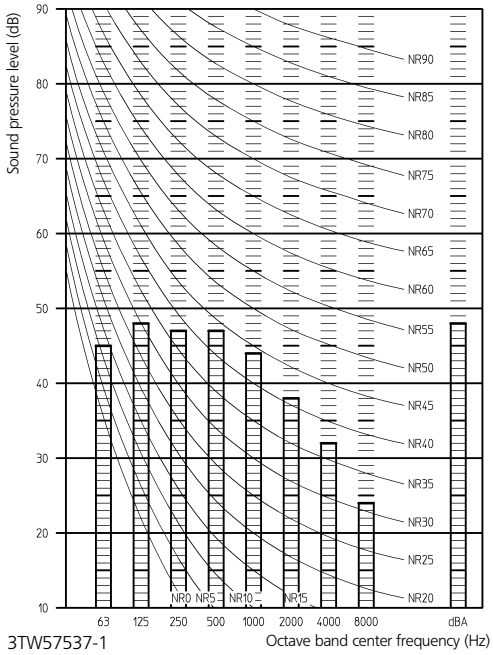
Notes:
1 This wiring diagram only applies to the hydromodule switchbox
2 ⋯■□■⋯: Field wiring No/Nc: Normal open/Normal closed
3 □□□□: Terminal strip ⊠: Connector —○—: Terminal ⏚: Protective earth
4 Do not operate the unit by short-circuiting any protection device.
5 BLK: Black / WHT: White / RED: Red / BLU: Blue / PINK: Pink / YLW: Yellow
BRN: Brown / GRY: Grey / GRN: Green / ORG: Orange / VIO: Violet
6 When the remote ON/OFF, remote heating and remote cooling function is not used, apply wire bridge between terminals 1, 2 and 4.

2TW58256-2B

7 Sound data

7 - 1 Sound pressure spectrum

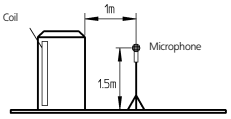
EWAQ005AC
EWYQ005AC (Cooling)



3TW57537-1

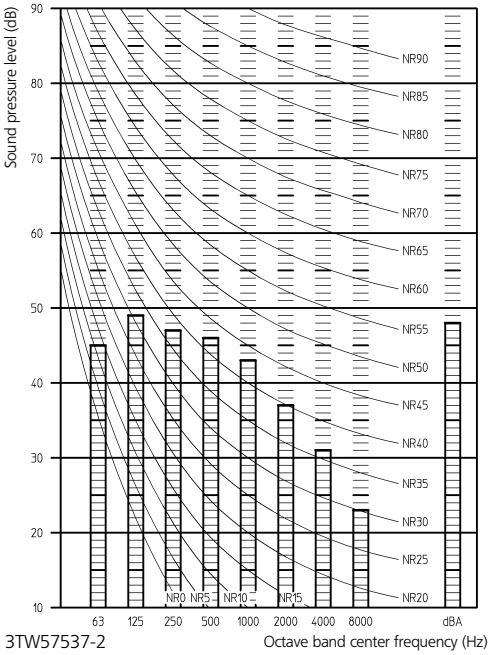
NOTES

1 Data is valid at free field condition (measured in a semi-anachoic room)
2 dB(A) = A-weighted sound pressure level (A-scale according to IEC)
3 Reference acoustic pressure 0dB = 20µPa
4 If sound is measured under actual installation conditions, the measured value will be higher due to environmental noise and sound reflections.



Location of microphone

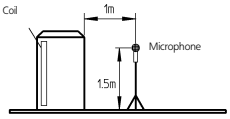
EWYQ005AC (Heating)



3TW57537-2

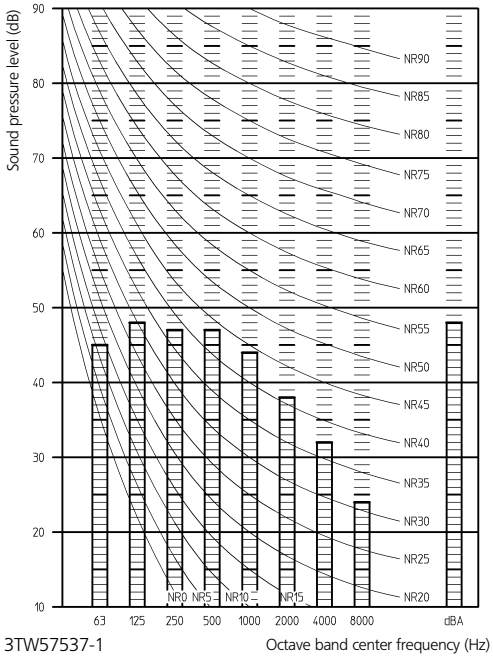
NOTES

1 Data is valid at free field condition (measured in a semi-anachoic room)
2 dB(A) = A-weighted sound pressure level (A-scale according to IEC)
3 Reference acoustic pressure 0dB = 20µPa
4 If sound is measured under actual installation conditions, the measured value will be higher due to environmental noise and sound reflections..



Location of microphone

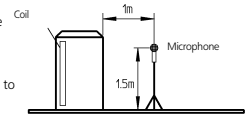
EWAQ006AC
EWYQ006AC (Cooling)



3TW57537-1

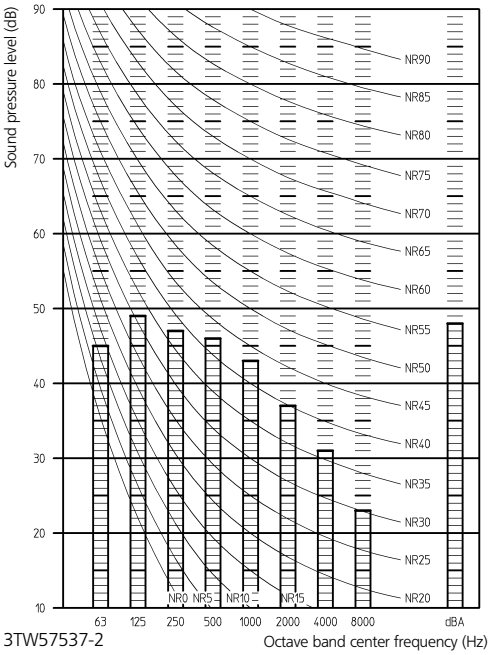
NOTES

1 Data is valid at free field condition (measured in a semi-anachoic room)
2 dB(A) = A-weighted sound pressure level (A-scale according to IEC)
3 Reference acoustic pressure 0dB = 20µPa
4 If sound is measured under actual installation conditions, the measured value will be higher due to environmental noise and sound reflections.



Location of microphone

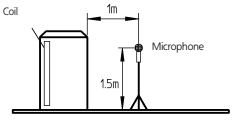
EWYQ006AC (Heating)



3TW57537-2

NOTES

1 Data is valid at free field condition (measured in a semi-anachoic room)
2 dB(A) = A-weighted sound pressure level (A-scale according to IEC)
3 Reference acoustic pressure 0dB = 20µPa
4 If sound is measured under actual installation conditions, the measured value will be higher due to environmental noise and sound reflections..

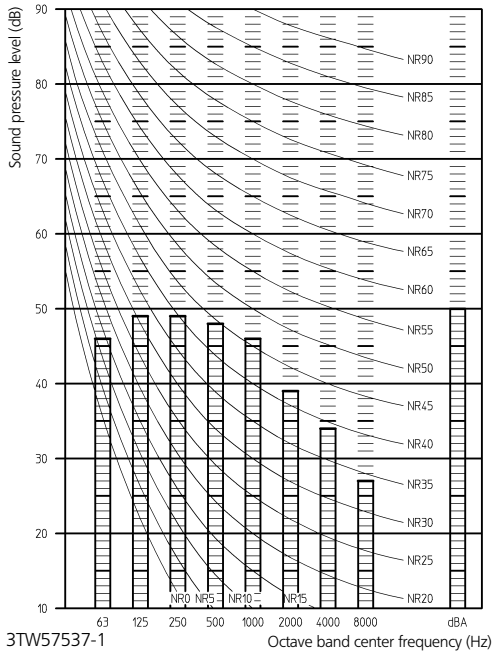


Location of microphone

7 Sound data

7 - 1 Sound pressure spectrum

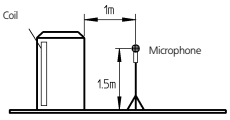
EWAQ007AC
EWYQ007AC (Cooling)



3TW57537-1

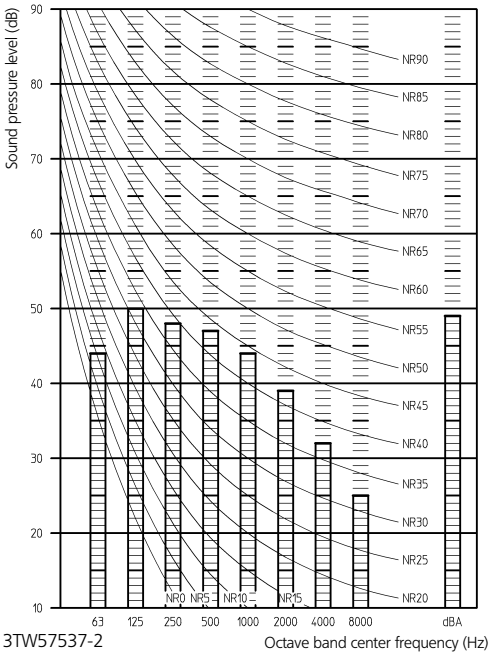
NOTES

1. Data is valid at free field condition (measured in a semi-anachoic room)
2. dB(A) = A-weighted sound pressure level (A-scale according to IEC)
3. Reference acoustic pressure 0dB = 20µPa
4. If sound is measured under actual installation conditions, the measured value will be higher due to environmental noise and sound reflections.



Location of microphone

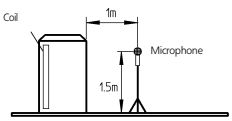
EWYQ007AC (Heating)



3TW57537-2

NOTES

1. Data is valid at free field condition (measured in a semi-anachoic room)
2. dB(A) = A-weighted sound pressure level (A-scale according to IEC)
3. Reference acoustic pressure 0dB = 20µPa
4. If sound is measured under actual installation conditions, the measured value will be higher due to environmental noise and sound reflections.



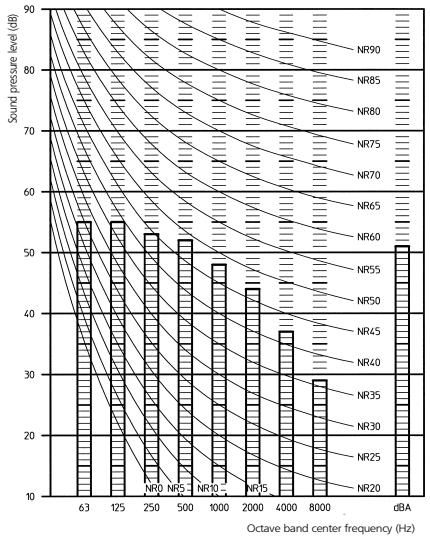
Location of microphone

7 Sound data

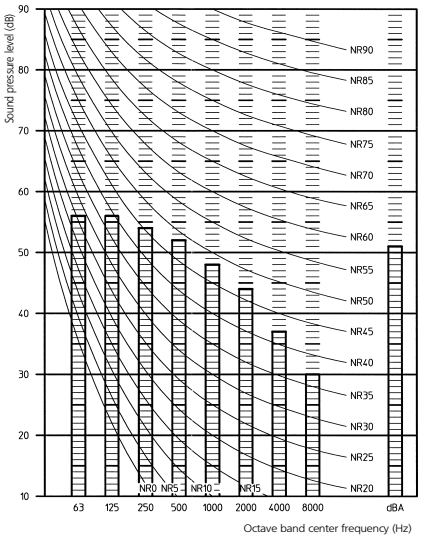
7 - 1 Sound pressure spectrum

EWAQ009-011ACV3
EWYQ009-011ACV3

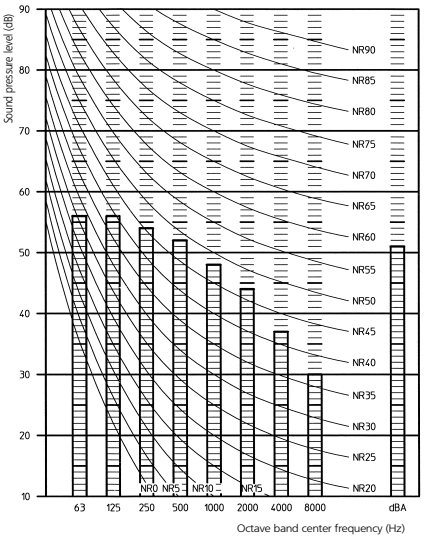
EW(A/Y)Q009ACV3
COOLING



EW(A/Y)Q010ACV3
COOLING

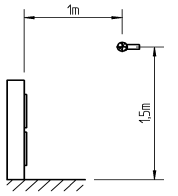


EW(A/Y)Q011ACV3
COOLING



Notes:

1. Data is valid at free field condition (measured in a semi-anachoic room)
2. dBA = A-weighted sound power level (A-scale according to IEC)
3. Reference acoustic pressure 0dB = 20μPa
4. If sound is measured under actual installation conditions, the measured value will be higher due to environmental noise and sound reflections.

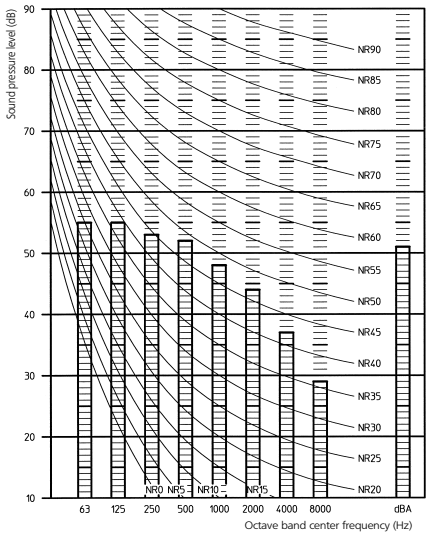


Measuring location (discharge side)

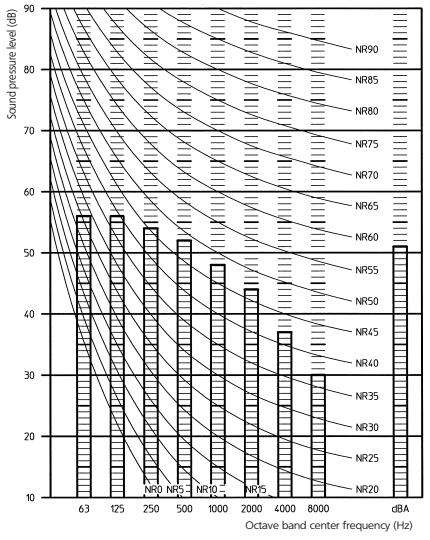
3TW58257-1

EWYQ009-011ACV3

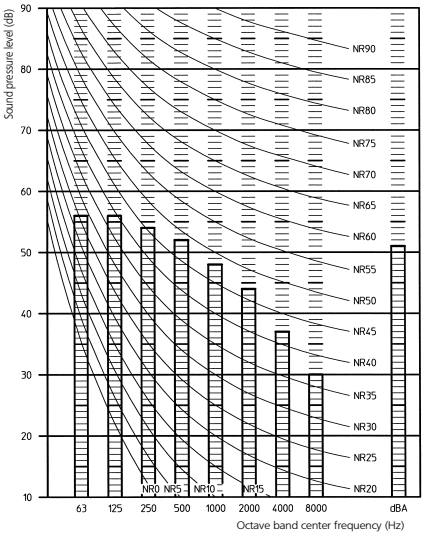
EWYQ009ACV3
HEATING



EWYQ010ACV3
HEATING

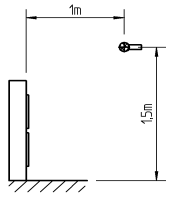


EWYQ011ACV3
HEATING



Notes:

1. Data is valid at free field condition (measured in a semi-anachoic room)
2. dBA = A-weighted sound power level (A-scale according to IEC)
3. Reference acoustic pressure 0dB = 20μPa
4. If sound is measured under actual installation conditions, the measured value will be higher due to environmental noise and sound reflections.



Measuring location (discharge side)

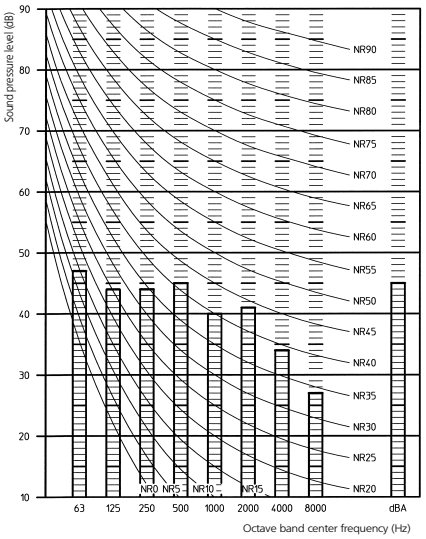
3TW58257-2

7 Sound data

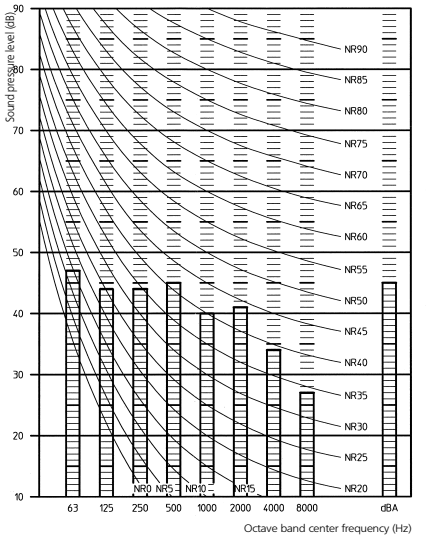
7 - 1 Sound pressure spectrum

EW(A/Y)Q009-011ACV3 - night quiet mode

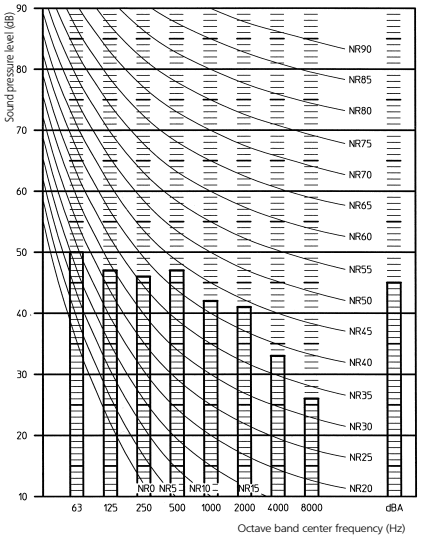
EW(A/Y)Q009ACV3 COOLING



EW(A/Y)Q010ACV3 COOLING

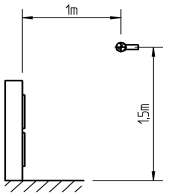


EW(A/Y)Q011ACV3 COOLING



Notes:

1 Data is valid at free field condition (measured in a semi-anachoic room)
2 dBA = A-weighted sound power level (A-scale according to IEC)
3 Reference acoustic pressure 0dB = 20µPa
4 If sound is measured under actual installation conditions, the measured value will be higher due to environmental noise and sound reflections.

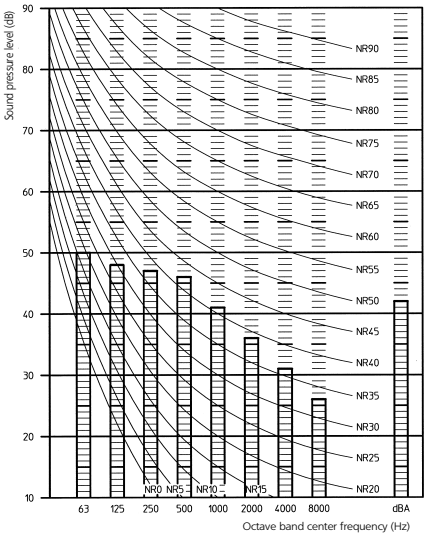


Measuring location (discharge side)

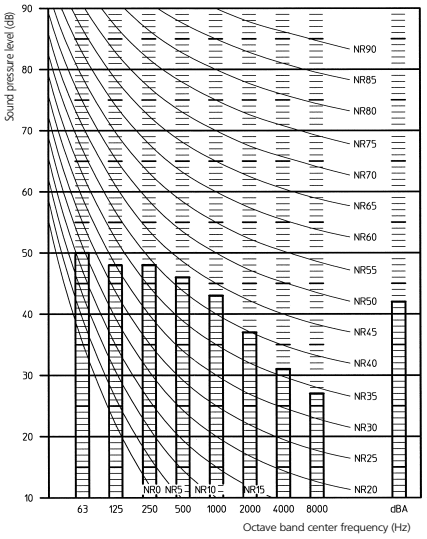
3TW58257-3

EWYQ009-011ACV3 - night quiet mode

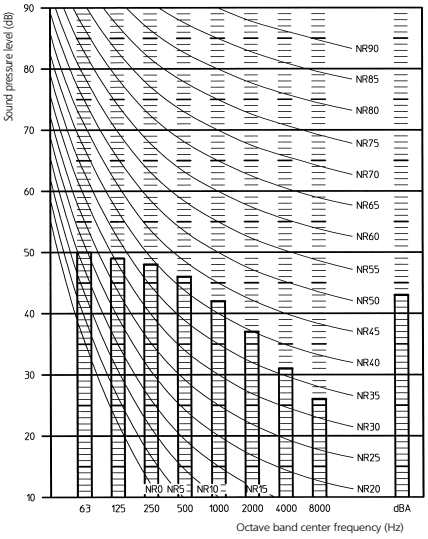
EWYQ009ACV3 HEATING



EWYQ010ACV3 HEATING

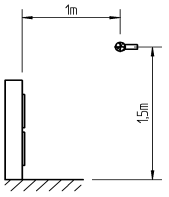


EWYQ011ACV3 HEATING



Notes:

1 Data is valid at free field condition (measured in a semi-anachoic room)
2 dBA = A-weighted sound power level (A-scale according to IEC)
3 Reference acoustic pressure 0dB = 20µPa
4 If sound is measured under actual installation conditions, the measured value will be higher due to environmental noise and sound reflections.



Measuring location (discharge side)

3TW58257-4A

7 Sound data

7 - 2 Sound power spectrum

	Sound power total (dBA)	
	LwA - Cooling mode	**LwA - Heating mode**
EWAQ005ACV3P* **	62	N/A
EWAQ006ACV3P* **	62	N/A
EWAQ007ACV3P* **	63	N/A
EWYQ005ACV3P* **	62	60
EWYQ006ACV3P* **	62	60
EWYQ007ACV3P* **	63	61

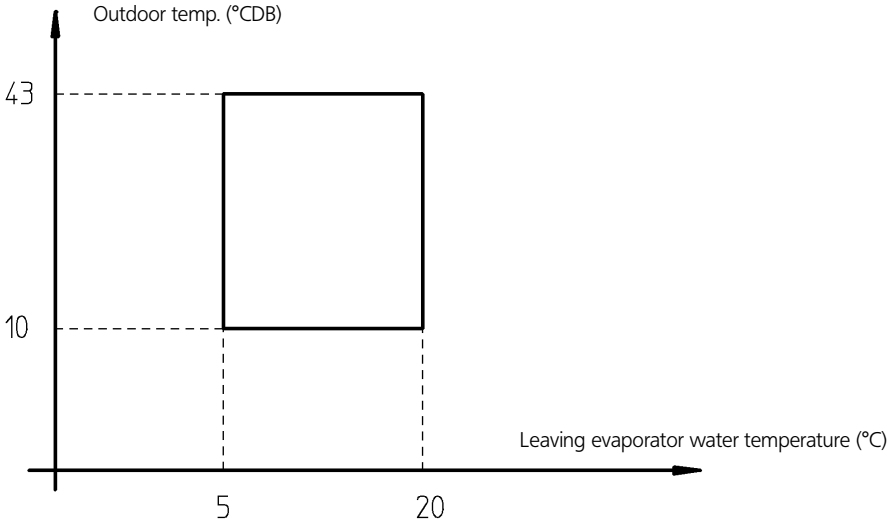
Notes:
- Data valid at nominal operation condition
- Measured according ISO3744

4TW57537-3A

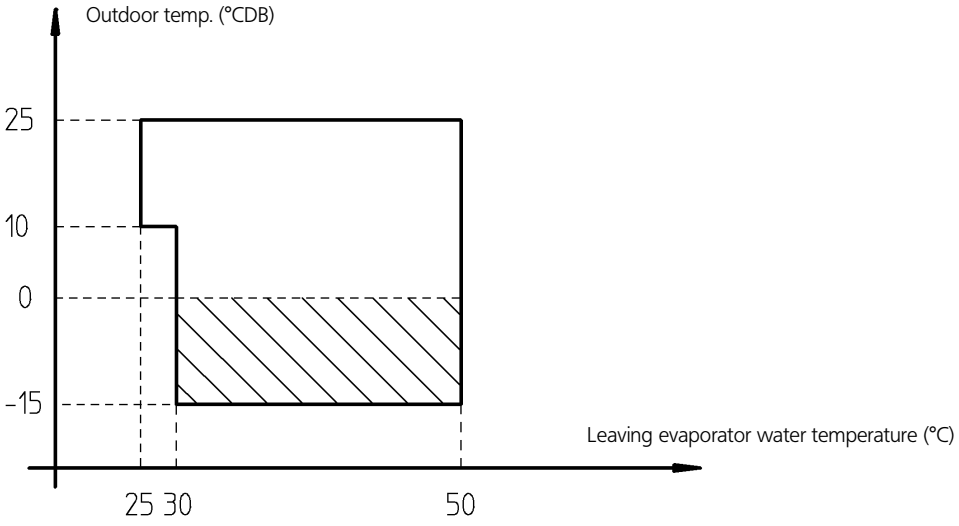
8 Operation range

EWAQ005-007ACV3
EWYQ005-007ACV3

Cooling mode



Heating mode

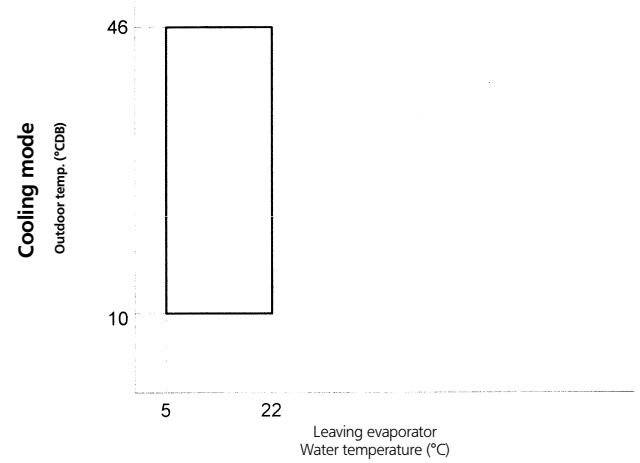


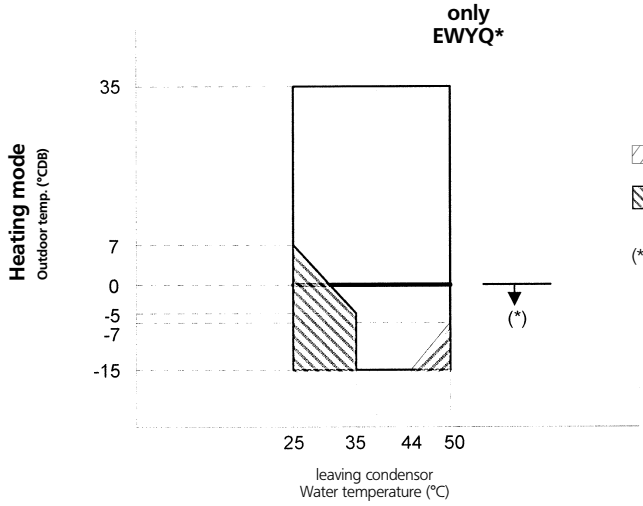
: Protect the water circuit against freezing

4TW57533-1A

8 Operation range

EWAQ009-011ACV3
EWYQ009-011ACV3





No heatpump operation.

In this area the minimum watervolume must be increased to 40l

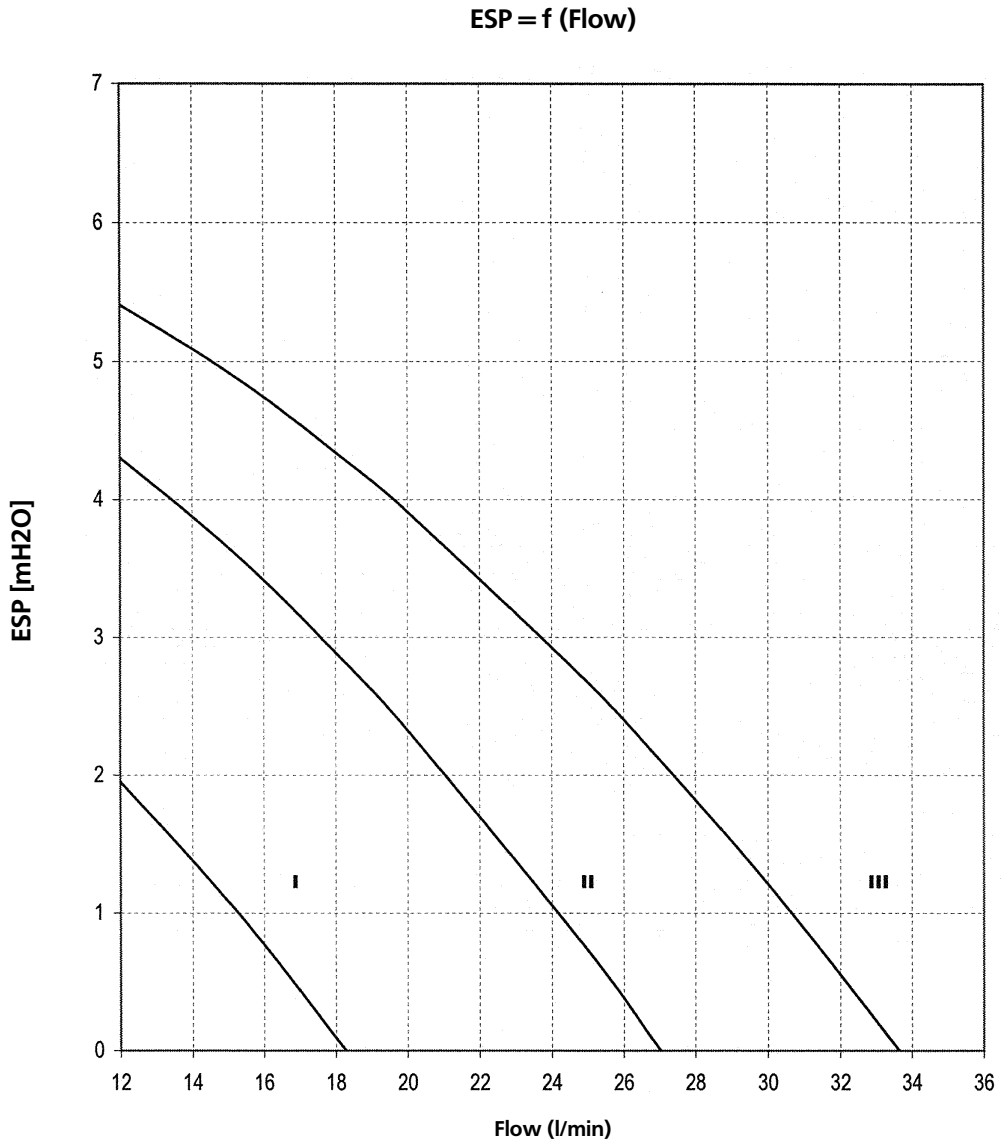
(*) In case ambient temperatures below 0°C are likely to happen, we recommend to use
* Glycol (for more information, see installation manual),
or
* OP10 (Insulation+ heatertape around the waterpiping).

4TW58253-1A

9 Hydraulic performance

9 - 1 Static pressure drop unit

EWAQ005-007ACV3
EWYQ005-007ACV3



I: low speed setting pump
II: medium speed setting pump
III: high speed setting pump

ESP: External static pressure
Flow: waterflow trough the unit

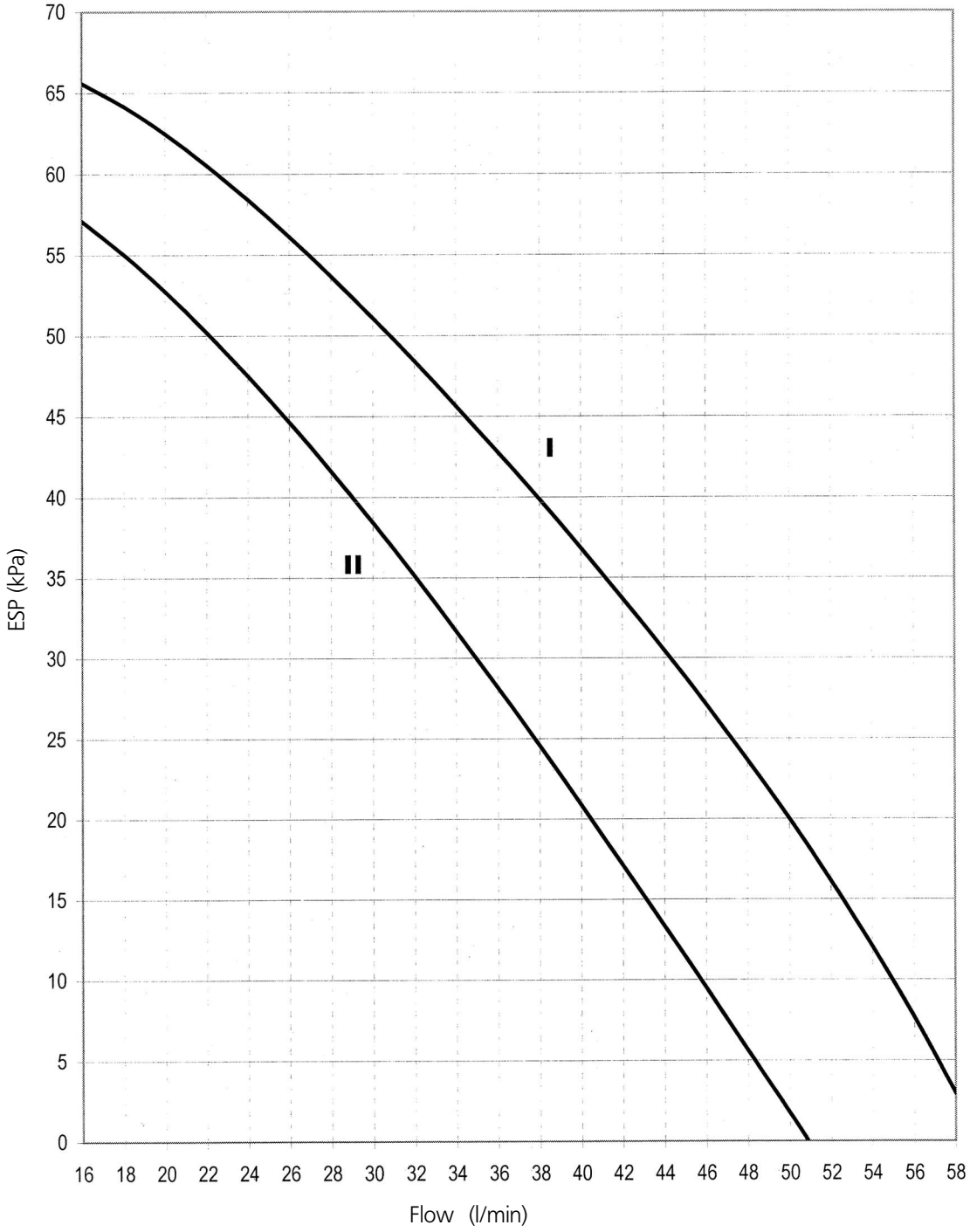
Warning: Selecting a flow outside the curves can cause damage to or malfunction of the unit. See also minimum and maximum allowed water flowrate in the technical specifications.

4TW56749-2

9 Hydraulic performance

9 - 1 Static pressure drop unit

EWAQ009-013AC
EWYQ009-013AC



I High speed
II medium speed
ESP: External static pressure
Flow: waterflow through the unit

WARNING
1. Selecting a flow outside the curves can cause damage to or malfunction of the unit. See also minimum and maximum allowed water flowrange in the technical specifications.
2. Water quality must be according to EN directive EC 98/83 EC.

4TW58259-2A

TABLE OF CONTENTS

EWYQ-ACW1

1 Specifications

1-1 TECHNICAL SPECIFICATIONS				EWYQ009ACW1	EWYQ011ACW1	EWYQ013ACW1
Capacity (Eurovent)	Cooling	Nominal	kW	9.0	11.0	13.2
	Heating	Nominal	kW	11.0	12.5	14.0
Capacity control	Type			Inverter controlled		
Capacity	Cooling	Nominal	kW	12.8	15.5	16.9
	Heating	Nominal	kW	11.3	13.4	15.0
Nominal input (Eurovent)	Cooling		kW	2.96	3.82	5.10
	Heating		kW	3.23	3.70	4.19
Nominal input	Cooling		kW	2.99	4.05	5.44
	Heating		kW	2.60	2.99	3.39
EER (Eurovent)				3.04	2.88	2.59
EER				4.28	3.84	3.11
COP (Eurovent)				3.41	3.38	3.34
COP				4.36	4.47	4.41
ESEER				4.68	4.63	4.52
Casing	Colour			Ivory white		
	Material			Galvanized and painted steel sheet		
Dimensions	Unit	Height	mm	1,435		
		Width	mm	1,418		
		Depth	mm	382	382	382
	Unit with packing	Height	mm	1,574		
		Width	mm	1,500		
		Depth	mm	430	430	430
Weight	Unit		kg	180	180	180
	Gross weight		kg	200	200	200
Packing	Material			EPS		
				Wood		
				Carton		
				PP (Straps)		
	Weight		kg	20	20	20
Water Heat Exchanger	Type			Brazed plate		
	Quantity			1	1	1
	Water volume		l	1.01	1.01	1.01
	Water flow rate	Min	l/min	16	16	16
		Max	l/min	58	58	58
	Nominal Water Flow	Cooling	l/min	25.8	31.5	37.8
		Heating	l/min	31.5	35.8	40.1
	Insulation material			Foamed synthetic elastomer		
Air heat exchanger	Length		mm	857	857	857
	Type			Hi-XSS(8)		
	Rows			2	2	2
	Stages			60	60	60
	Fin Pitch		mm	1.4	1.4	1.4
	Passes	Quantity		5	5	5
	Face Area		m²	1.131		
	Fin	Type		WF fin		
		Treatment		Anti-corrosion treatment (PE)		
Pump	Type			Water cooled		
	Quantity			1	1	1
	Nominal ESP unit	Cooling	kPa	56.4	49.1	40.9
		Heating	kPa	49.1	43.0	36.6
	Power input		W	210	210	210
Hydraulic components	Expansion vessel	Volume	l	10	10	10
		Max. water pressure	bar	3	3	3
		Pre-pressure	bar	1.0	1.0	1.0
	Water filter	Diameter perforations	mm	1	1	1
		Material		brass		

1 Specifications

1-1 TECHNICAL SPECIFICATIONS				EWYQ009ACW1	EWYQ011ACW1	EWYQ013ACW1
Fan	Type			Propeller		
	Drive			Direct drive		
	Model	Motor		Brushless DC motor		
		Quantity		2	2	2
		Speed	steps	8	8	8
		Speed Cooling	rpm	780	780	780
		Speed Heating	rpm	760	760	760
		Motor Output	W	70	70	70
		Discharge direction		Horizontal		
Compressor	Type			Hermetically sealed scroll compressor		
	Refrigerant oil type			FVC68D		
	Refrigerant oil charge		l	1.0	1.0	1.0
	Model	Quantity		1	1	1
		Model		JT1G-VDYR@S		
		Motor Output	W	2,200		
		Starting Method		Inverter driven		
		Crankcase Heater	W	33	33	33
Sound level	Sound Power	Cooling	dBA	64	64	66
		Heating	dBA	64	64	64
	Sound Pressure	Cooling	dBA	51	51	52
		Heating	dBA	51	51	51
Sound Level (Night quiet)	Sound Pressure	Cooling	dBA	45	45	46
		Heating	dBA	42	42	43
Operation Range (Cooling)	Water side	Min	°CDB	5	5	5
		Max	°CDB	22	22	22
	Air side	Min	°CDB	10	10	10
		Max	°CDB	46	46	46
Operation Range (Heating)	Water side	Min	°CDB	25	25	25
		Max	°CDB	50	50	50
	Air side	Min	°CDB	-15	-15	-15
		Max	°CDB	35	35	35
Refrigerant circuit	Refrigerant type			R-410A		
	Refrigerant charge		kg	2.95	2.95	2.95
	No of circuits			1	1	1
	Refrigerant control			Electronic expansion valve		
Water circuit	Piping connections		inch	G5/4 (FEMALE)		
	Piping		inch	5/4		
	Safety valve		bar	3	3	3
	Manometer			Yes		
	Drain valve / Fill valve			yes		
	Shut off valve			yes		
	Air purge valve			yes		
	Total water volume		l	4	4	4
	Minimum water volume in the system		l	20	20	20
Safety Devices				High pressure switch		
				Fan thermal protector		
				Fuse		

1 Specifications

1-1 TECHNICAL SPECIFICATIONS	EWYQ009ACW1	EWYQ011ACW1	EWYQ013ACW1
Notes	Nominal cooling capacity, cooling power input and EER at Eurovent conditions: ambient 35°C; evaporator 7°C (dT = 5°C)		
	Nominal cooling capacity, cooling power input and EER at non-Eurovent conditions: ambient 35°C; evaporator 18°C (dT = 5°C)		
	Nominal heating capacity, heating power input and COP at Eurovent conditions: ambient 7°CDB/6°CWB; condenser 45°C (dT = 5°C)		
	Nominal heating capacity, heating power input and COP at non-Eurovent conditions: ambient 7°CDB/6°CWB; condenser 35°C (dT = 5°C)		
	The sound pressure level is measured via a microphone at a certain distance from the unit. It is a relative value depending on the distance and acoustic environment. Refer to sound spectrum drawing for more information.		
	Water circuit total water volume: including piping + PHE/excluding expansion vessel		
	Water circuit minimum water volume system: excluding water volume in the unit. In most applications this minimum water volume will have a satisfying result. In critical processes or in rooms with a high heat load though, extra water volume might be required. Refer to operation range for more info.		
Defrost Method	Pressure equalising		
Defrost Control	Sensor for outdoor heat exchanger temperature		

1-2 ELECTRICAL SPECIFICATIONS				EWYQ009ACW1	EWYQ011ACW1	EWYQ013ACW1
Power Supply	Name			W1		
	Phase			3N~		
	Frequency		Hz	50		
	Voltage		V	400		
	Voltage Tolerance	Minimum	%	-10%		
		Maximum	%	+10%		
Unit	Recomended fuses		A	20		
Wiring connections				cf. installation manual		

2 Options

EWA(Y)Q009-013AC

Optional equipment for EWA/YQ*A*V3/W1P(on)

Modelnumber

EWAQ009A*V3P(on) EWYQ009A*V3P(on)
EWAQ010A*V3P(on) EWYQ010A*V3P(on)
EWAQ011A*V3P(on) EWYQ011A*V3P(on) (on) = option number

EWAQ009A*W1P(on) EWYQ009A*W1P(on)
EWAQ011A*W1P(on) EWYQ011A*W1P(on)
EWAQ013A*W1P(on) EWYQ013A*W1P(on)

Option number	Option description	(on)	Unit size						Availability
			EWAQ009A*V3P(on)	EWAQ010A*V3P(on)	EWAQ011A*V3P(on)	EWYQ009A*V3P(on)	EWYQ010A*V3P(on)	EWYQ011A*V3P(on)	
OP10	Standard unit available options evaporator + waterpiping heatertape		○	○	○	○	○	○	factory mounted
EKRP1HB	Digital I/O PCB (1)	-H-	○	○	○	○	○	○	option kit
			EWAQ009A*W1P(on)	EWAQ011A*W1P(on)	EWAQ013A*W1P(on)	EWYQ009A*W1P(on)	EWYQ011A*W1P(on)	EWYQ013A*W1P(on)	
OP10	Standard unit available options evaporator heatertape		○	○	○	○	○	○	factory mounted
EKRP1HB	Digital I/O PCB (1)	-H-	○	○	○	○	○	○	option kit

3TW58259-1A

NOTES

1. Input/Output PCB that provides two additional output connections (remote alarm and remote ON/OFF signalisation)

3 Capacity tables

3 - 1 Cooling capacity tables

EWAQ009-013ACW1
EWYQ009-013ACW1

Maximum Cooling Capacity

	Tamb [°C]	20		25		30		35		40		45	
	LWE [°C]	CC [kW]	PI [kW]	CC [kW]	PI [kW]	CC [kW]	PI [kW]	CC [kW]	PI [kW]	CC [kW]	PI [kW]	CC [kW]	PI [kW]
EWA/YQ009 (W1)	**7**	10,91	2,02	10,27	2,33	9,64	2,65	9,00	2,96	8,03	3,24	7,06	3,53
	10	12,10	1,99	11,35	2,31	10,61	2,63	9,86	2,95	9,00	3,28	8,13	3,62
	13	13,33	1,96	12,50	2,29	11,66	2,62	10,82	2,95	9,99	3,32	9,16	3,69
	15	14,20	1,91	13,34	2,26	12,47	2,62	11,60	2,97	10,69	3,34	9,77	3,71
	18	15,51	1,85	14,60	2,23	13,69	2,61	12,77	2,99	11,73	3,37	10,70	3,75
	22	17,25	1,75	16,28	2,17	15,31	2,60	14,34	3,02	13,13	3,40	11,93	3,79
EWA/YQ011 (W1)	**7**	13,45	2,72	12,63	3,09	11,82	3,45	11,00	3,82	9,93	4,18	8,85	4,54
	10	14,97	2,75	14,07	3,13	13,17	3,50	12,27	3,88	11,24	4,26	10,22	4,65
	13	16,46	2,77	15,48	3,16	14,50	3,55	13,52	3,94	12,48	4,34	11,44	4,75
	15	17,41	2,77	16,38	3,18	15,36	3,58	14,33	3,98	13,20	4,39	12,07	4,80
	18	18,85	2,82	17,74	3,23	16,64	3,64	15,54	4,05	14,28	4,47	13,02	4,88
	22	20,76	2,85	19,55	3,28	18,35	3,71	17,15	4,13	15,71	4,56	14,28	4,99
EWA/YQ013 (W1)	**7**	14,64	3,86	14,52	4,22	14,03	4,63	13,20	5,10	11,71	4,89	10,36	5,39
	10	15,75	3,93	15,62	4,30	15,08	4,71	14,19	5,19	12,59	4,97	11,15	5,48
	13	17,30	4,00	17,14	4,37	16,55	4,80	15,58	5,28	13,83	5,06	11,57	5,56
	15	18,36	4,04	18,19	4,42	17,57	4,86	16,54	5,34	14,69	5,12	11,99	5,43
	18	19,98	4,11	19,30	4,50	18,26	4,95	16,89	5,44	14,78	5,21	12,13	5,01
	22	22,25	4,21	21,51	4,61	20,36	5,07	18,85	5,57	16,52	5,33	12,72	4,47

3TW58252-1B

SYMBOLS

CC : Cooling capacity at maximum operating frequency, measured acc. Eurovent 6/C/003-2006 (kW)
HC : Heating capacity at maximum operating frequency, measured acc. Eurovent 6/C/003-2006 (kW)
PI : Power input (kW), measured acc. Eurovent 6/C/003-2006 (kW)
LWE : Leaving Water Evaporator temperature (°C)
LWC : Leaving Water Condensor temperature (°C)
Tamb : Ambient temperature (°C) RH=85%

NOTES

1 **Cooling capacity**
Capacity is according to Eurovent rating standard 6/C/003-2006 and valid for chilled water range Dt = 3~8°C
Capacity values may not be extrapolated below 7°C leaving water temperature

2 **Heating capacity**
Capacity is according to Eurovent rating standard 6/C/003-2006 and valid for chilled water range Dt = 3~8°C

3 **Power input**
Power input is total of indoor and outdoor unit, except the circulation pump; according to Eurovent rating standard 6/C/003-2006.
Pump power input to be added = 90 W (according EN14511).

3 Capacity tables

3 - 2 Heating capacity tables

EWYQ009-013ACW1

Maximum Heating Capacity (Peak values)

	LWC [°C]	30		35		40		45		50	
	T_{amb} [°C]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]
EWYQ009 (W1)	-15	6,71	2,33	6,31	2,55	6,17	2,81	5,99	3,11	5,75	3,45
	-7	8,23	2,36	7,76	2,60	7,60	2,87	7,41	3,18	7,12	3,54
	-2	9,39	2,37	8,87	2,61	8,72	2,89	8,51	3,21	8,21	3,57
	2	10,45	2,37	9,89	2,61	9,74	2,90	9,54	3,22	9,22	3,59
	7	11,94	2,35	11,34	2,60	11,20	2,89	11,00	3,23	10,66	3,60
	12	12,95	2,28	12,33	2,53	12,22	2,83	12,04	3,16	11,71	3,54
	15	14,01	2,25	13,36	2,51	13,26	2,81	13,09	3,15	12,76	3,53
	20	15,93	2,19	15,23	2,46	15,15	2,76	15,00	3,11	14,24	3,50
EWYQ011 (W1)	-15	7,91	2,65	7,63	2,89	7,37	3,17	7,25	3,50	7,21	3,86
	-7	9,61	2,71	9,23	2,97	8,85	3,26	8,66	3,60	8,54	3,97
	-2	10,94	2,74	10,49	3,00	10,05	3,30	9,82	3,64	9,67	4,03
	2	12,16	2,75	11,67	3,02	11,18	3,33	10,91	3,67	10,74	4,06
	7	13,92	2,76	13,36	2,99	12,80	3,34	12,50	3,70	12,30	4,09
	12	14,73	2,67	14,16	2,94	13,58	3,25	13,27	3,60	13,07	3,99
	15	15,97	2,66	15,35	2,93	14,74	3,24	14,41	3,60	14,20	3,99
	20	18,22	2,63	17,54	2,91	16,86	3,23	16,51	3,59	15,82	3,99
EWYQ013 (W1)	-15	8,86	3,00	8,55	3,28	8,25	3,60	8,12	3,96	8,08	4,38
	-7	10,77	3,08	10,34	3,36	9,92	3,70	9,70	4,08	9,57	4,50
	-2	12,25	3,11	11,75	3,40	11,26	3,74	11,00	4,13	10,83	4,57
	2	13,62	3,12	13,07	3,42	12,52	3,77	12,22	4,16	12,03	4,61
	7	15,59	3,12	14,96	3,39	14,34	3,79	14,00	4,19	13,78	4,64
	12	16,50	3,02	15,86	3,33	15,21	3,68	14,86	4,08	14,64	4,52
	15	17,88	3,01	17,20	3,32	16,51	3,68	16,14	4,08	15,91	4,53
	20	20,40	2,98	19,65	3,30	18,89	3,66	18,49	4,07	17,71	4,52

Maximum Heating Capacity (integrated values)

	LWC [°C]	30		35		40		45		50	
	T_{amb} [°C]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]
EWYQ009 (W1)	-15	5,68	2,28	5,34	2,49	5,22	2,75	5,07	3,05	4,86	3,38
	-7	6,97	2,32	6,57	2,54	6,44	2,81	6,27	3,12	6,03	3,47
	-2	7,80	2,28	7,36	2,51	7,24	2,77	7,07	3,08	6,81	3,43
	2	8,67	2,27	8,21	2,51	8,09	2,78	7,92	3,09	7,65	3,45
	7	11,94	2,35	11,34	2,60	11,20	2,89	11,00	3,23	10,66	3,60
	12	12,95	2,28	12,33	2,53	12,22	2,83	12,04	3,16	11,71	3,54
	15	14,01	2,25	13,36	2,51	13,26	2,81	13,09	3,15	12,76	3,53
	20	15,93	2,19	15,23	2,46	15,15	2,76	15,00	3,11	14,24	3,50
EWYQ011 (W1)	-15	6,73	2,57	6,49	2,80	6,27	3,07	6,17	3,38	6,13	3,74
	-7	8,18	2,63	7,85	2,87	7,53	3,16	7,37	3,48	7,27	3,85
	-2	8,70	2,48	8,34	2,72	7,99	2,99	7,80	3,30	7,69	3,65
	2	9,67	2,49	9,28	2,73	8,89	3,01	8,67	3,32	8,54	3,68
	7	13,92	2,76	13,36	2,99	12,80	3,34	12,50	3,70	12,30	4,09
	12	14,73	2,67	14,16	2,94	13,58	3,25	13,27	3,60	13,07	3,99
	15	15,97	2,66	15,35	2,93	14,74	3,24	14,41	3,60	14,20	3,99
	20	18,22	2,63	17,54	2,91	16,86	3,23	16,51	3,59	15,82	3,99
EWYQ013 (W1)	-15	7,54	2,91	7,27	3,17	7,02	3,48	6,91	3,84	6,87	4,24
	-7	9,16	2,98	8,79	3,26	8,44	3,58	8,25	3,95	8,14	4,36
	-2	9,74	2,81	9,34	3,08	8,95	3,39	8,74	3,74	8,61	4,13
	2	10,83	2,82	10,39	3,10	9,95	3,41	9,72	3,77	9,56	4,17
	7	15,59	3,12	14,96	3,39	14,34	3,79	14,00	4,19	13,78	4,64
	12	16,50	3,02	15,86	3,33	15,21	3,68	14,86	4,08	14,64	4,52
	15	17,88	3,01	17,20	3,32	16,51	3,68	16,14	4,08	15,91	4,53
	20	20,40	2,98	19,65	3,30	18,89	3,66	18,49	4,07	17,71	4,52

3TW58252-1B

SYMBOLS

CC : Cooling capacity at maximum operating frequency, measured acc. Eurovent 6/C/003-2006 (kW)

HC : Heating capacity at maximum operating frequency, measured acc. Eurovent 6/C/003-2006 (kW)

PI : Power input (kW), measured acc. Eurovent 6/C/003-2006 (kW)

LWE : Leaving Water Evaporator temperature (°C)

LWC : Leaving Water Condensor temperature (°C)

Tamb : Ambient temperature (°C) RH=85%

NOTES

1 **Cooling capacity**
Capacity is according to Eurovent rating standard 6/C/003-2006 and valid for chilled water range Dt = 3~8°C
Capacity values may not be extrapolated below 7°C leaving water temperature

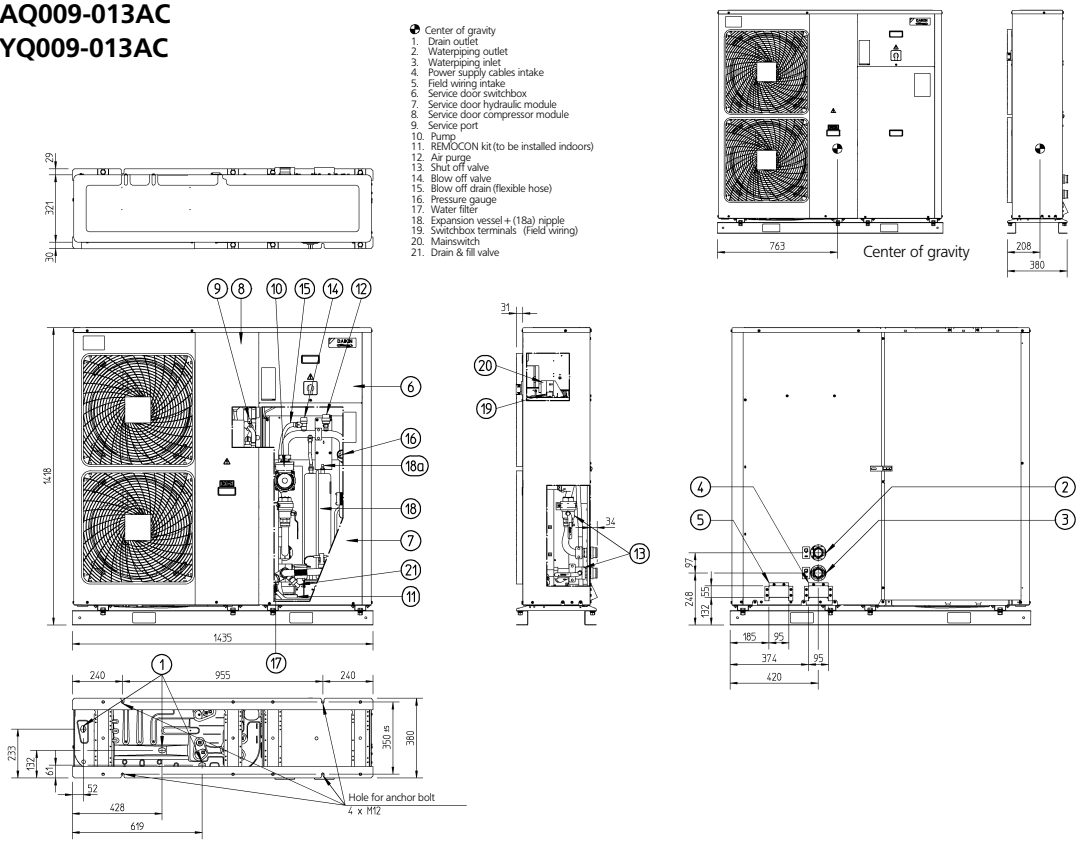
2 **Heating capacity**
Capacity is according to Eurovent rating standard 6/C/003-2006 and valid for chilled water range Dt = 3~8°C

3 **Power input**
Power input is total of indoor and outdoor unit, except the circulation pump; according to Eurovent rating standard 6/C/003-2006.
Pump power input to be added = 90 W (according EN14511).

4 Dimensional drawing

4 - 1 Dimensional drawing

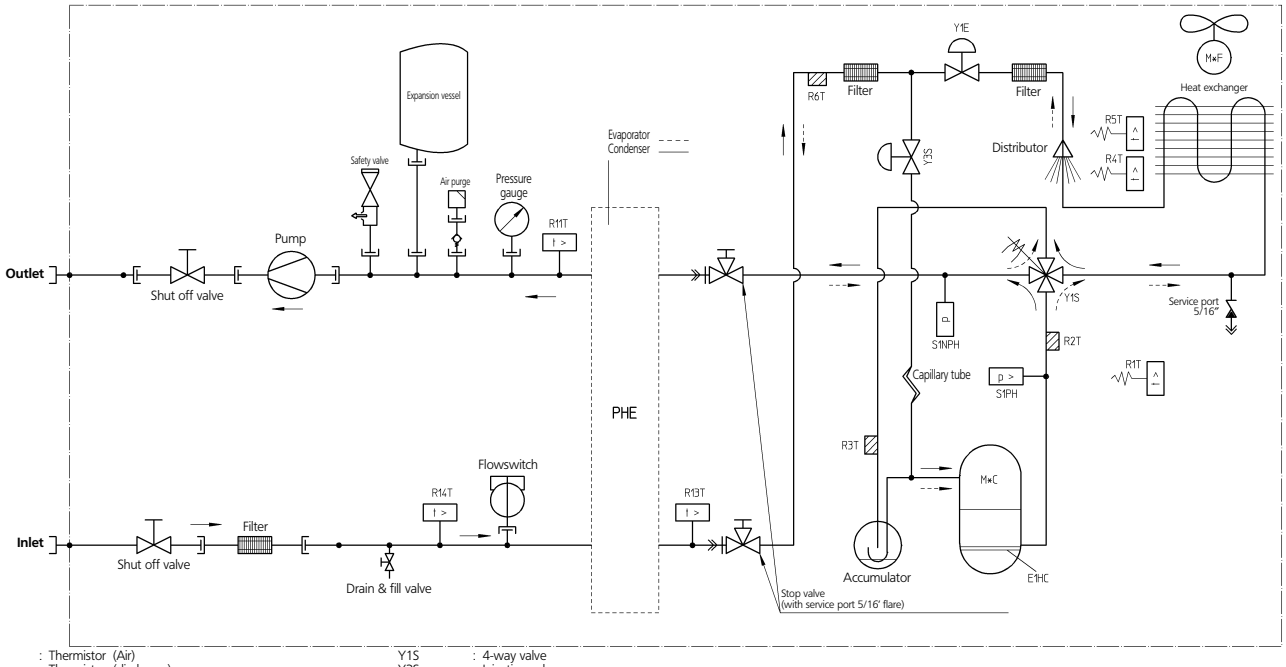
EWAQ009-013AC
EWYQ009-013AC



3TW58254-1

5 Piping diagram

EWAQ009-013ACW1
EWYQ009-013ACW1



R1T	: Thermistor (Air)	Y1S	: 4-way valve
R2T	: Thermistor (discharge)	Y3S	: Injection valve
R3T	: Thermistor (Suction)	S1PH	: High pressure switch
R4T	: Thermistor (Liquid 1)	M*F	: Fan motor
R5T	: Thermistor (middle)	M*C	: Compressor
R6T	: Thermistor (Liquid 2)	R11T	: Outlet water heat-exchanger thermistor
S1NPH	: Pressure sensor	R13T	: Refrigerant liquid side thermistor
Y1E	: Electronic expansion valve	R14T	: Inlet water thermistor
E1HC	: Crankcase heater		

Heating
Cooling

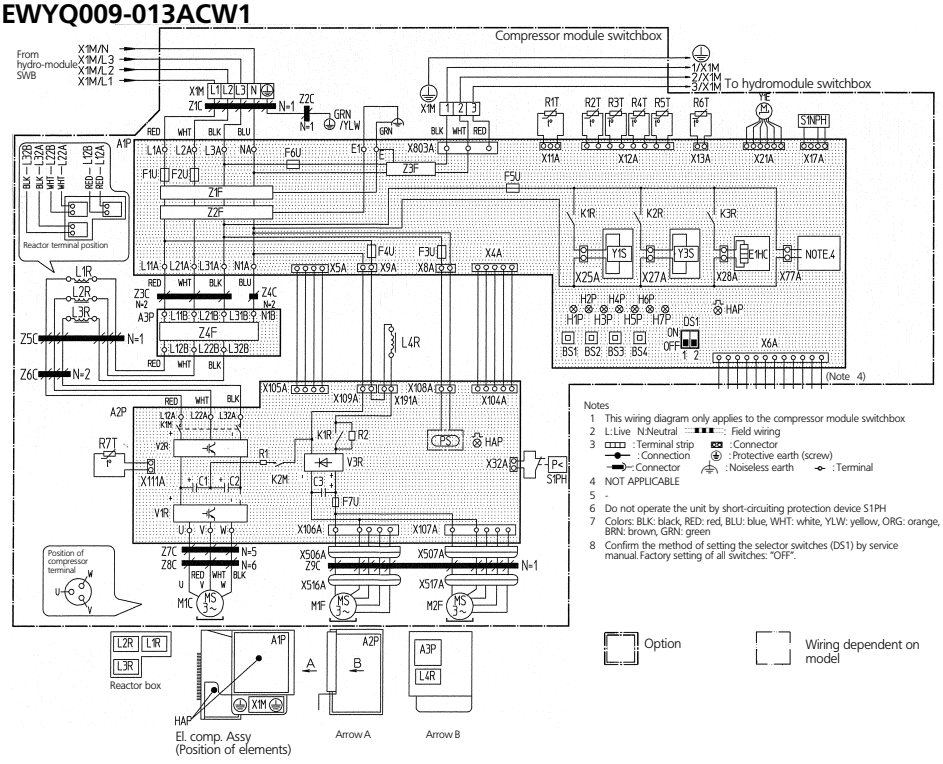
Check valve Flare connection Screw connection Flange connection Pinched pipe Spinned pipe

3TW58315-1

6 Wiring diagram

6 - 1 Wiring diagram

EWAQ009-013ACW1
EWYQ009-013ACW1

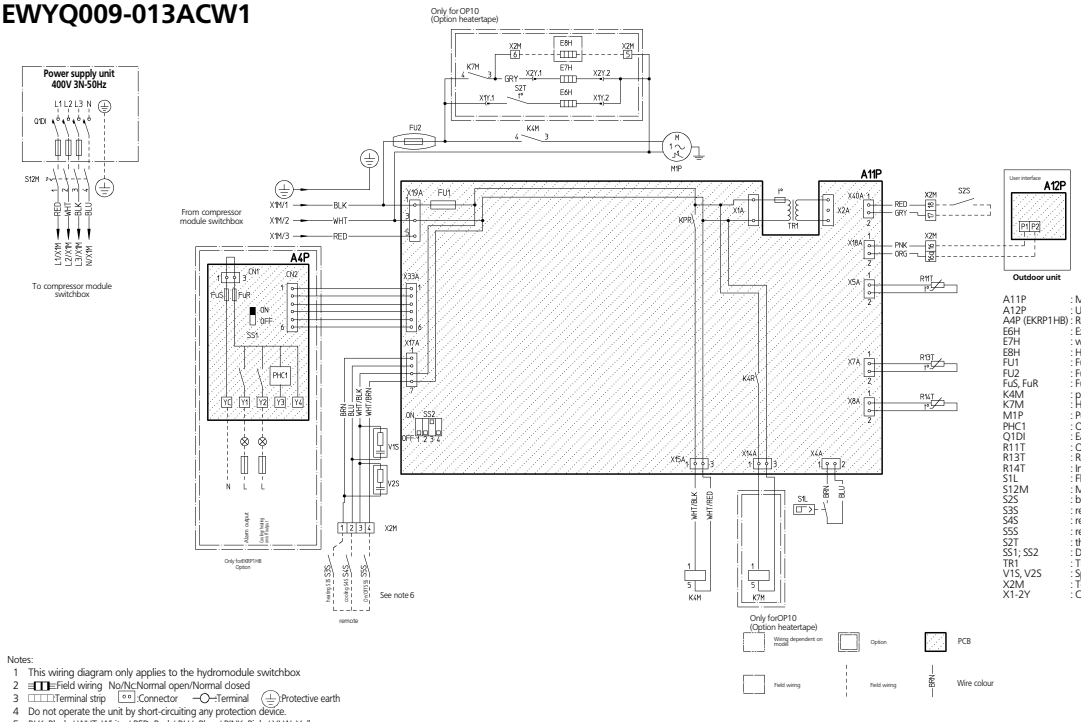


Notes
1 This wiring diagram only applies to the compressor module switchbox
2 L:Live N:Neutral : Field wiring
3 : Terminal strip : Connector : Connection : Protective earth (screw) : Connector : Noiseless earth : Terminal
4 NOT APPLICABLE
5 -
6 Do not operate the unit by short-circuiting protection device S1PH
7 Colors: BLK: black, RED: red, BLU: blue, WHT: white, YLW: yellow, ORG: orange, BRN: brown, GRN: green
8 Confirm the method of setting the selector switches (DS1) by service manual. Factory setting of all switches: "OFF".

A1P	Printed circuit board
A2P	Printed circuit board (INV)
A3P	Printed circuit board (Noise filter)
BS1–BS4	Push button switch
C1–C4	Capacitor
DS1	DIP switch
E1HC	Crankcase heater
F1U	Fuse (31.5A/250V)
F2U	Fuse (31.5A/250V)
F3U	Fuse (T 6.3A/250V)
F4U	Fuse (T 6.3A/250V)
F5U	Fuse (T 6.3A/250V)
F6U	Fuse (T 6.3A/250V)
F7U	Fuse (T 5.0A/250V)
HAP (A1P)	Pilot lamp (Service monitor-green)
HAP (A2P)	Pilot lamp (Service monitor-green)
H1P–7P (A1P)	Pilot lamp (Service monitor-orange)
K1M–K2M	Magnetic contactor
K1R (A1P)	Magnetic relay (Y1S)
K1R (A2P)	Magnetic relay
K2R (A1P)	Magnetic relay (Y2S)
K3R (A1P)	Magnetic relay (E1HC)
L1R–L3R	Reactor
L4R	Reactor (For outdoor fan motor)
M1C	Motor (Compressor)
M1F	Motor (Fan) (upper)
M2F	Motor (Fan) (lower)
PS	Switching power supply
R1–R4	Resistor
R1T	Thermistor (Air)
R2T	Thermistor (Discharge)
R3T	Thermistor (Suction)
R4T	Thermistor (Heat exchanger)
R5T	Thermistor (heat exchanger middle)
R6T	Thermistor (Liquid)
R7T	Thermistor (Fin)
S1NPH	Pressure sensor
S1PH	Pressure switch (High)
V1R-V2R	Power module
V3R	Diode module
X1M	Terminal strip (Power supply)
Y1E	Electronic expansion valve
Y3S	Solenoid valve
Z1C–Z9C	Noise filter
Z1F–Z4F	Noise filter
Optional connector	
X6A	Connector
X77A	Connector

2TW58316-1

EWAQ009-013ACW1
EWYQ009-013ACW1



A11P	: Main PCB
A12P	: User interface PCB
A4P (EKRP1HB)	: Remote alarm PCB
E6H	: Expansion vessel heater
E7H	: water piping heater
E8H	: Heatertape (Field supply Max. 200W)
FU1	: Fuse 3,15A T 250V for PCB
FU2	: Fuse 5A T 250V
FuS, FuR	: Fuse 5A 250V Remote alarm PCB
K4M	: pump relay
K7M	: Heater relay
M1P	: Pump
PHC1	: Optocoupler input circuit
Q1DI	: Earth leakage protector
R11T	: Outlet water heat-exchanger thermistor
R13T	: Refrigerant liquid side thermistor
R14T	: Inlet water thermistor
S1L	: Flowswitch
S12M	: Main switch
S2S	: benefit kWh rate signal
S3S	: remote heating signal
S4S	: remote cooling signal
S5S	: remote ON/OFF signal
S2T	: thermostat expansion vessel heater
SS1, SS2	: DIP switch
TR1	: Transformer 24V for PCB
V1S, V2S	: Spark suppression 1, 2
X2M	: Terminal strips
X1-2Y	: Connector

Notes:
1 This wiring diagram only applies to the hydromodule switchbox
2 Field wiring No/Nc:Normal open/Normal closed
3 Terminal strip :Connector :Terminal :Protective earth
4 Do not operate the unit by short-circuiting any protection device.
5 BLK: Black / WHT: White / RED: Red / BLU: Blue / PINK: Pink / YLW: Yellow
BRN: Brown / GRY: Grey / GRN: Green / ORG: Orange / VIO: Violet
6 When the remote ON/OFF, remote heating and remote cooling function is not used, apply wire bridge between terminals 1, 2 and 4.

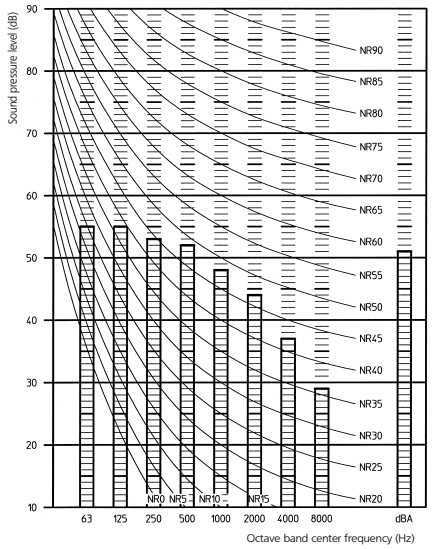
2TW58316-2B

7 Sound data

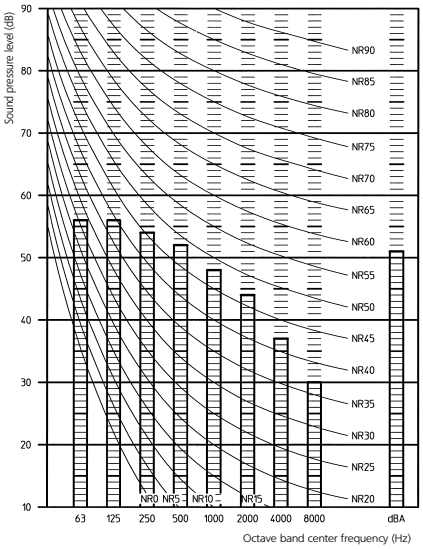
7 - 1 Sound pressure spectrum

EWAQ009-013ACW1
EWYQ009-013ACW1

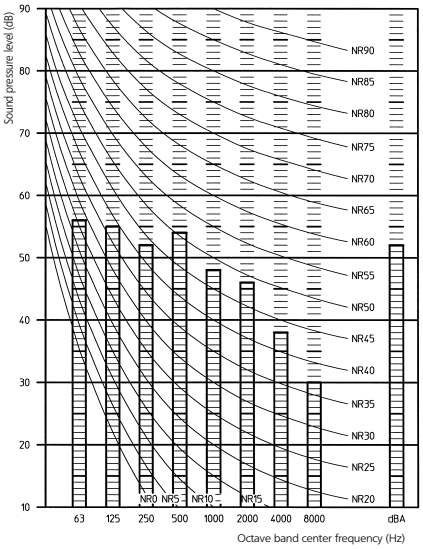
EW(A/Y)Q009ACW1
COOLING



EW(A/Y)Q011ACW1
COOLING

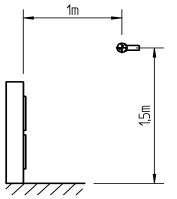


EW(A/Y)Q013ACW1
COOLING



Notes:

1 Data is valid at free field condition (measured in a semi-anachoic room)
2 dBA = A-weighted sound power level (A-scale according to IEC)
3 Reference acoustic pressure 0dB = 20µPa
4 If sound is measured under actual installation conditions, the measured value will be higher due to environmental noise and sound reflections.

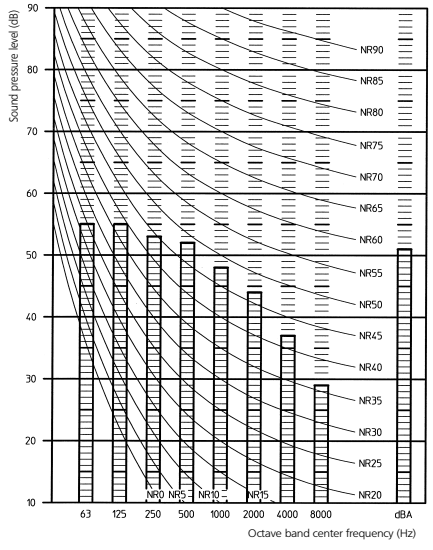


Measuring location (discharge side)

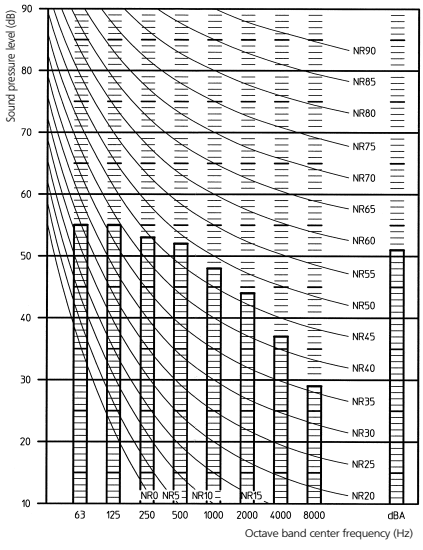
3TW58257-1

EWYQ009-013ACW1

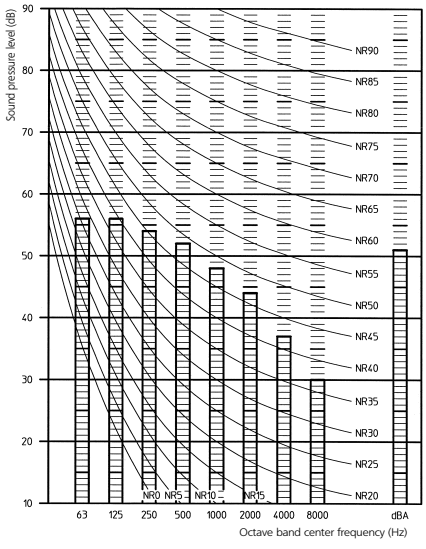
EWYQ009ACW1
HEATING



EWYQ011ACW1
HEATING

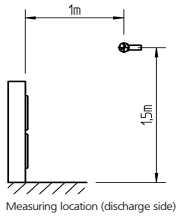


EWYQ013ACW1
HEATING



Notes:

1 Data is valid at free field condition (measured in a semi-anachoic room)
2 dBA = A-weighted sound power level (A-scale according to IEC)
3 Reference acoustic pressure 0dB = 20µPa
4 If sound is measured under actual installation conditions, the measured value will be higher due to environmental noise and sound reflections.



Measuring location (discharge side)

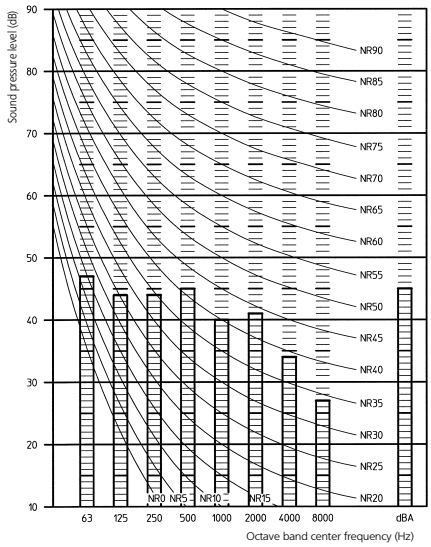
3TW58257-2

7 Sound data

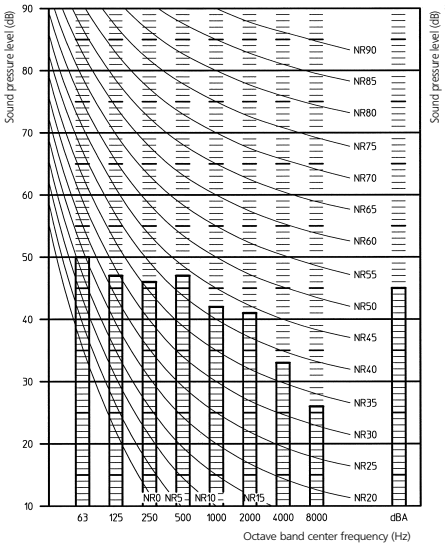
7 - 2 Sound pressure spectrum quiet mode

EW(A/Y)Q009-013ACW1 - night quiet mode

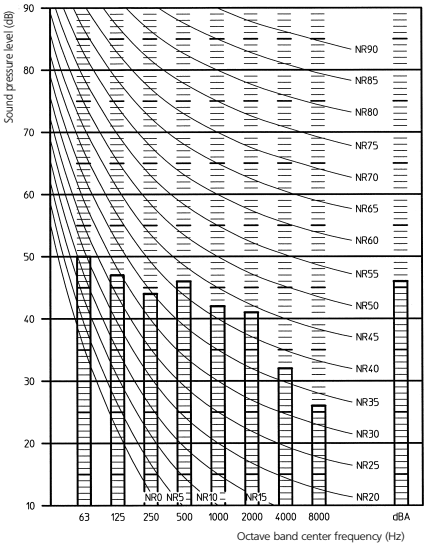
EW(A/Y)Q009ACW1 COOLING



EW(A/Y)Q011ACW1 COOLING

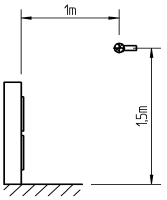


EW(A/Y)Q013ACW1 COOLING



Notes:

1 Data is valid at free field condition (measured in a semi-anachoic room)
2 dBA = A-weighted sound power level (A-scale according to IEC)
3 Reference acoustic pressure 0dB = 20µPa
4 If sound is measured under actual installation conditions, the measured value will be higher due to environmental noise and sound reflections.

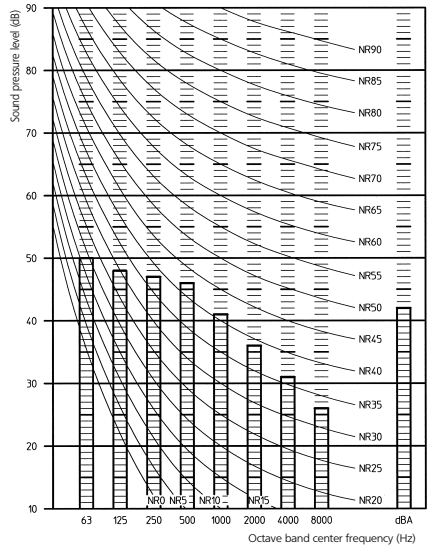


Measuring location (discharge side)

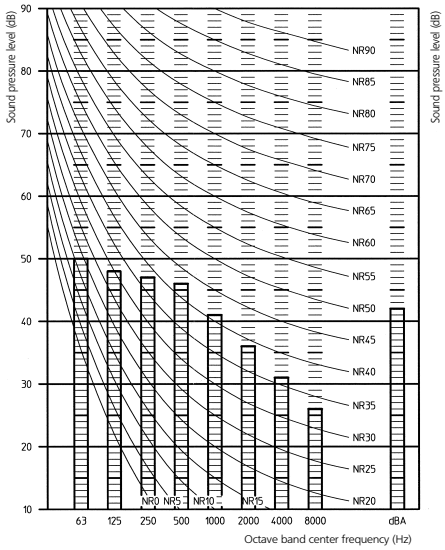
3TW58257-3

EWYQ009-013ACW1 - night quiet mode

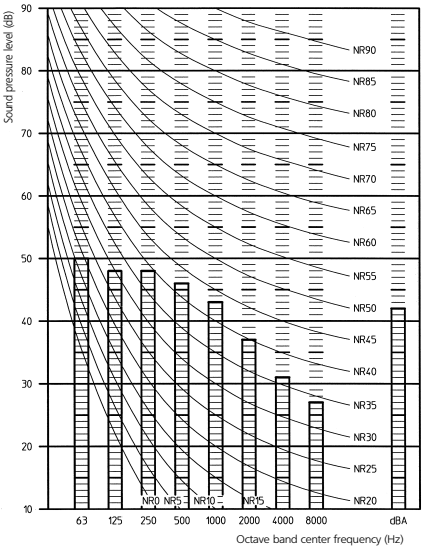
EWYQ009ACW1 HEATING



EWYQ011ACW1 HEATING

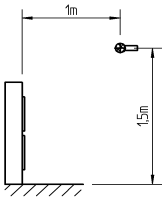


EWYQ013ACW1 HEATING



Notes:

1 Data is valid at free field condition (measured in a semi-anachoic room)
2 dBA = A-weighted sound power level (A-scale according to IEC)
3 Reference acoustic pressure 0dB = 20µPa
4 If sound is measured under actual installation conditions, the measured value will be higher due to environmental noise and sound reflections.

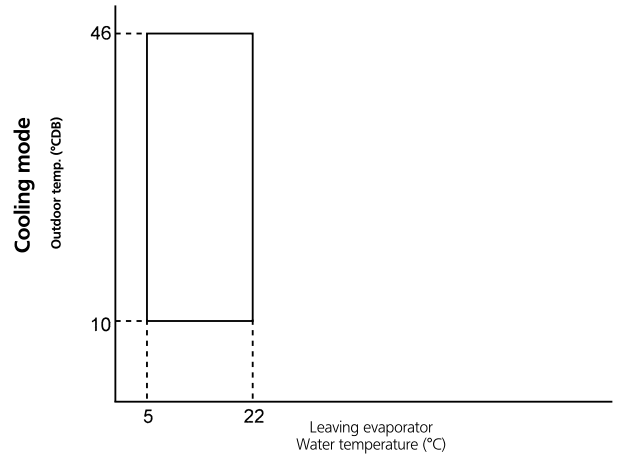


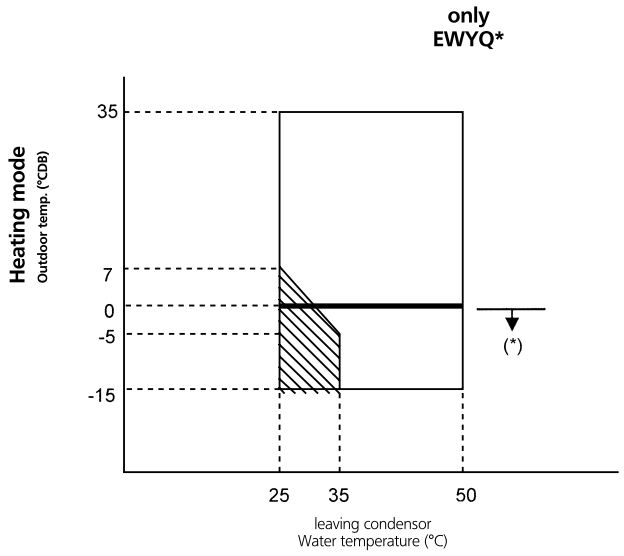
Measuring location (discharge side)

3TW58257-4A

8 Operation range

EWAQ009-013ACW1
EWYQ009-013ACW1





No heatpump operation.

In this area the minimum watervolume must be increased to 40l

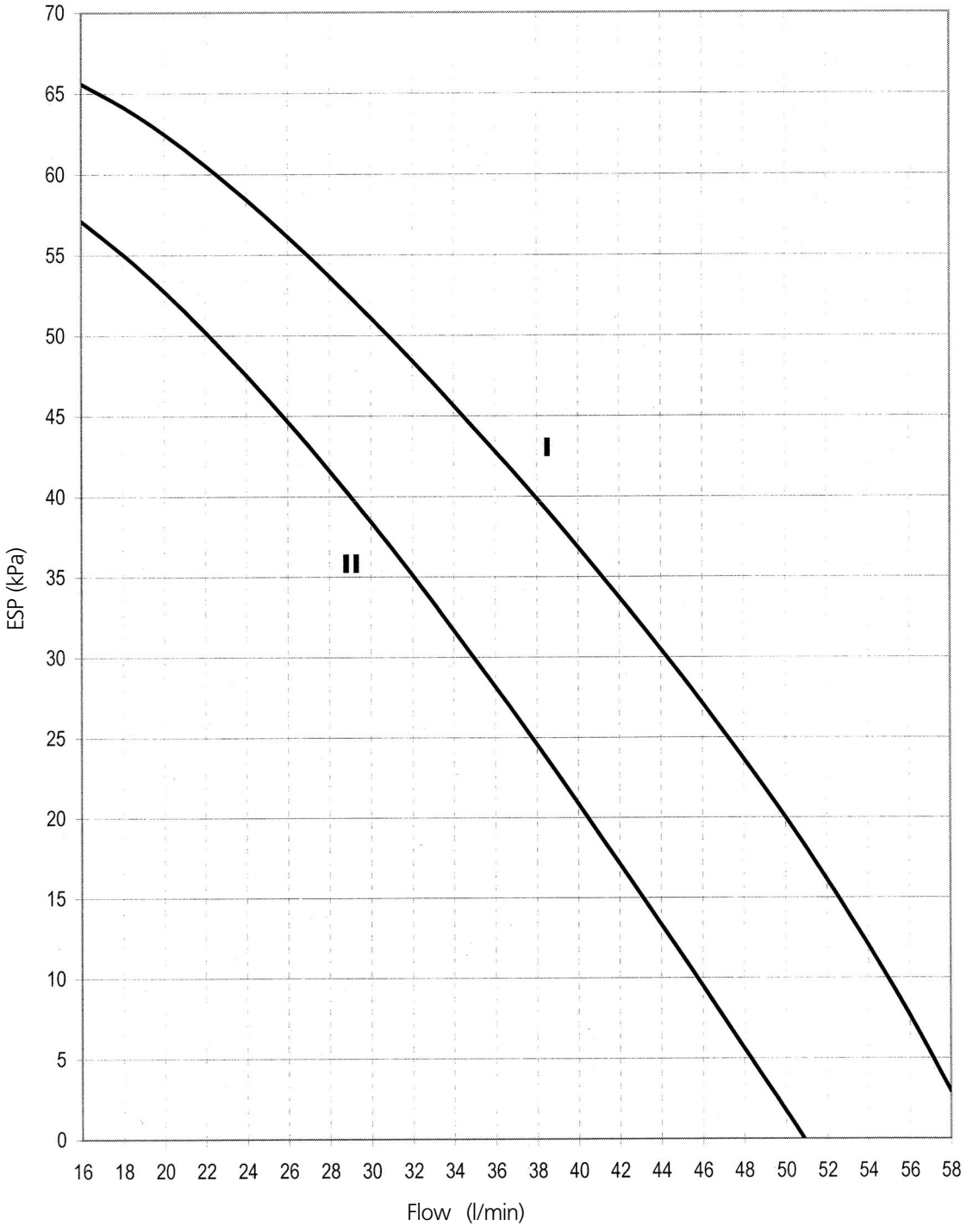
(*) In case ambient temperatures below 0°C are likely to happen, we recommend to use
* Glycol (for more information, see installation manual), or
* OP10 (Insulation+ heatertape around the waterpiping).

4TW58313-1A

9 Hydraulic performance

9 - 1 Static pressure drop unit

EWAQ009-013AC
EWYQ009-013AC



I High speed
II medium speed
ESP: External static pressure
Flow: waterflow through the unit

WARNING
1. Selecting a flow outside the curves can cause damage to or malfunction of the unit. See also minimum and maximum allowed water flowrange in the technical specifications.
2. Water quality must be according to EN directive EC 98/83 EC.

4TW58259-2A

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